FLIGHT

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"Chairing" Morane at the Bournemouth Flight Meeting after his big Sea Flight round the Needles and back.—In front is Mr. Perrin, the Secretary of the Royal Aero Club, carrying Morane's lifebelt, and to Morane's left is Mr. Chereau with his helmet under his arm.

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CHRONIC(LE) COUNSELS OF COWARDICE.

MOST of our readers are graduates from motoring, and they are therefore fully posted in the history of the Press attitude in the early days towards the motor car. And it is as well, in the light of what seems to be happening at the present juncture in the case of aeroplane accidents, to review briefly the story. When the motor vehicle first appeared on English roads, the newspaper attitude—assisted by the fanatic, the professionally non-progressive, and those whose business interests were adversely affected—was one of open scorn and derision. The very last thing the daily Press, with a few notable exceptions, thought of doing was to regard the new vehicle seriously, or to admit that it might have a future bearing on the life of the community. It was but natural, we being a conservative people, that when the car developed to a point at which it became certain that it was here to stay, the voice of the opponent of progress should be heard in the land. At once the columns of the Press were thrown open to a discussion of the pros and cons of the new locomotion, and, as must be always so when a movement is young, the cons were in overwhelming majority. Every accident in which a motor vehicle was concerned was reported with flaring, sensational headlines, and the maximum amount of sensation that could be extracted from the story—even with the aid of palpable exaggeration, was served up for the delectation of the public until all concerned really began to persuade themselves that the motor car was a species of mechanical freak gone mad and looking for a chance to run *amok*. In opening its columns to painfully silly effusions, the Press showed a want of sense of proportion which we sincerely trust will not be repeated at all generally during the infancy of aviation. There have been accidents—fatal accidents—to aviators and there will be more before the tale is complete. There can be no progress without sacrifice of some kind and in most progress the toll exacted is that of human life. The railway, the steamship, and even the surgery for that matter, have all developed along a path strewn with the lives of those who have sacrificed themselves in the cause of the advancement of the world's knowledge and in every case the sacrifice has been made to the accompaniment of the protests of some who would shirk the payment of the price of all that means progress. Is it that we are growing less virile as a race that we hear so much of the price we pay and so little of what we obtain for it; or is it simply that it is the mawkish and the misinformed who chiefly have time and inclination to make themselves heard the while the workers are toiling along the road that leads to mundane knowledge? We prefer to think the latter and with that more or less comforting reflection we can rest content that things will still continue to progress in spite of the periodical protests of those who stand without, only too often endeavouring to cover their moral cowardice with a cloak of superiority by croaking over the materialism of an essentially material world, or by the adoption of some other equally inapplicable pretext of a like subtle kind.

"Is it Worth While?"; "Suicide Shows"; "Against Science, Sport and Nature"; "The Peace of the Skies Invaded"; are among the headings that have figured largely in one of the extremist London daily papers during the past week. No one regrets the unfortunate incidents that have given opportunity for the use of these "scare-heads" more than we ourselves, and admittedly it behoves everyone to consider whether ways and means cannot be devised whereby to reduce the risks involved by those plucky pioneers who know no fear for themselves, and who are perhaps prone to be carried away at times by over-enthusiasm in the interests of progress. But when it comes to the stay-at-homes, who know nothing of the prospects of flight, going so far as to laugh at all practical mechanical achievement, and virtually insulting those who are doing their best to maintain the prestige of their own land, then surely it is time to protest against the deliberate prostitution of a public newspaper to the cultivation and circulation of such cant and ignorance. Not a few of the more rabid letter-writers against aviation—those of the type who are always to be found, with their laments about "a new evil come into the world," snapping around the heels of men of action whenever development in any new direction is taking place—cannot apparently stop first to make sure of their ground before commencing to diffuse their doctrines of decadence and counsels of cowardice; for they start on the assumption of absolute knowledge as to the futility of flying machines for all time to come. The curious thing is, perhaps, that they *now* admit the value to humanity of the railway train and "even of the motor car"; while they utterly fail to realise that it was they themselves, or their immediate forefathers with identical propensities, who preached successively and with equal confidence against the country-defiling train and more lately still against the juggernaut car. Our quarrel is not, however, against this type of fellow creature, inasmuch as we fully recognise his inability to be or to do anything else. Our protest is against the exploitation of his fanaticism to stir up popular opposition to one of the most promising material developments that the world has ever seen, and thus to handicap this country more heavily just at a time when there is already a risk of being left behind in the great and healthy struggle for industrial status with the other nations of the world.

Apart from this regrettable *Daily Chronicle* outburst, we would take this timely opportunity of calling attention to the way in which aeroplane accidents are apt to be reported in the Press, because we cannot help thinking that the sense of proportion is wanting in the way stress is often laid upon these accidents of the air and every detail served up in attractive (?) form for the benefit of the man in the train. In the past the Press has shown much goodwill towards the new science, and if there is a disposition to err on the side of giving undue prominence to the things that were better ignored or at least made little of, we are certain that arises from no widespread want of appreciation of the potentialities of flight or enmity to the movement. All the same, it is doing it a disservice to emphasise the untoward. As a matter of fact, the record of the aeroplane stands for all men to witness that, in proportion to the thousands of flights made, the percentage of accidents has been singularly low and flying has proved itself to be one of the safest of sports. It is safer than mountaineering or steeplechasing; quite as safe as professional football or hunting, and very little behind a good many more sports in point of safety. Putting aside the question of sport, in the cause of which we would not sacrifice a single life or limb unless there was some real and tangible gain to be foreseen for mankind as the outcome, flight—even though it be simply a sport at the present time—is destined to have a beneficial influence on international relations greater than it is almost possible to conceive. A great responsibility therefore rests with any who put unnecessary hindrances in the way.

FLIGHT PIONEERS.

THE HON. ALAN BOYLE.

BOURNEMOUTH AND ITS INTERNATIONAL FLYING WEEK.

A DIARY OF THE HAPPENINGS.

Claude Grahame-White (Henry Farman).

Thursday, July 14th.

ATTEMPTS for the Starting Prize opened Thursday's proceedings, and by dint of limiting the time for this event to the period between eleven and one o'clock the officials managed to create the first real signs of genuine and continuous activity that had up to that time prevailed in the camp. Even so, many competitors did not think it worth while to compete before half past twelve, and the last available fifteen minutes were relatively crowded. Indirectly this led to trouble, for there was insufficient time in which to allow all competitors even two of the three attempts to which they were entitled, and by an error in one of the marshal's watches Grahame-White's second effort was included and at first ranked victorious. Protest followed, and the foreigners, as a sign of disapproval, promptly struck the flags that fly above their sheds. In Committee, however, the officials straightened things out and peace reigned once more. It was all very unfortunate and equally unnecessary. In the Judges' box were three of the best timekeepers in England—Ebblewhite, Dutton, and Reynolds—who might properly have been entrusted with signalling the duration of the event by means of a flag on the official mast.

The result of the dispute placed the prize in the hands of Dickson, who well deserved it, more as some recognition of the general merit of his performances than on account of any particular brilliancy about his victory in this particular event. He won by an inch—and the measurement depended on the ocular observation of a coterie of Judges whose duty it was to determine the exact spot at which the wheels left the ground! For our own part we could not say to a foot where any one wheel left the ground, and it is not always that both wheels rise together; so that to have awarded the prize on the difference of one inch was scarcely in the best interests of sport, notwithstanding the desirability of accepting judgment in such matters as being without appeal. The real trouble seems to lie in the system of organisation which gives one official a multitude of duties. Apparently on that occasion Major Lloyd had to act as marshal, timekeeper, measurer, judge, and clerk of the course.

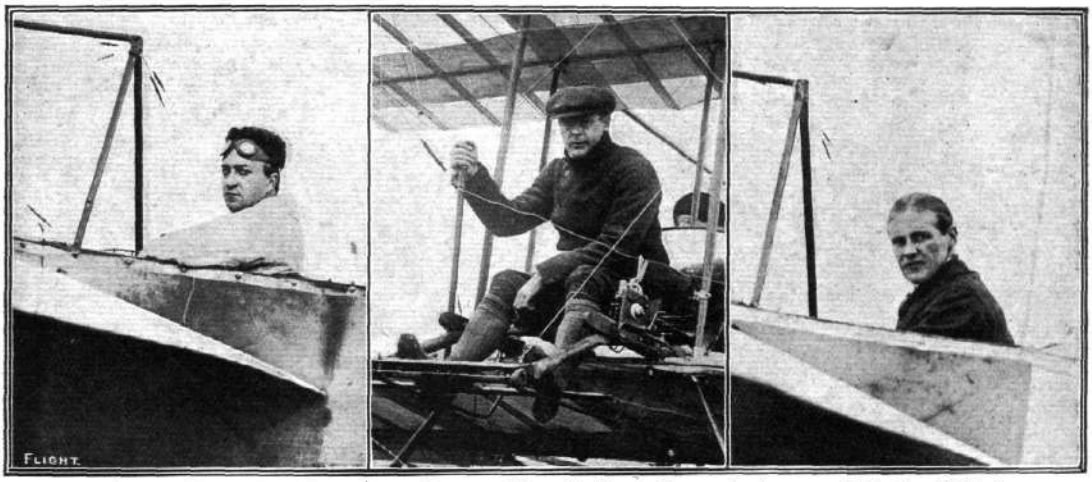
It was, at any rate, something to have got one event finished off, for the general attitude of the competitors has been to leave everything to the last, and it seemed very much as if the whole meeting would be rushed through on Saturday evening. What the spectators think of the long intervals it is difficult to say, but if they are very bored they are at least very patient and they applaud loyally whenever they are entertained by a flight. All the same it is inconceivable that they can frequently be attracted to a flying meeting once they are familiar with the sight of an aeroplane in the air. Flying is, of course, the wonder of the age, and is something everyone should see; moreover a good flight is a fine spectacle, but when it is no longer a novelty to the spectator, only the enthusiastic, we should imagine, would be found willing to wait all day on the chance of seeing a machine aloft.

The crux of the situation is that the organisation is entirely under the thumb of the competitors, who fly or not as they please. That is as it should be; flying is at present a hazardous game, and the pilots have a right to say when and how they will take their chance. A man who has been brave enough to learn to fly has no need to be called a coward because he won't go up when somebody wants him to. On the contrary, sound judgment is the greatest asset of a good pilot. On the other hand there is very little doubt that some of the competitors, at any rate, could have flown far more often than they did without incurring greater risks than they had already shown themselves willing to meet, and it would seem desirable that the organisation of a flying meeting should result as far as possible in a continuous series of flights, not only because that would be more interesting to the spectators, but because it would afford far better evidence of the real progress that has been made in flying.

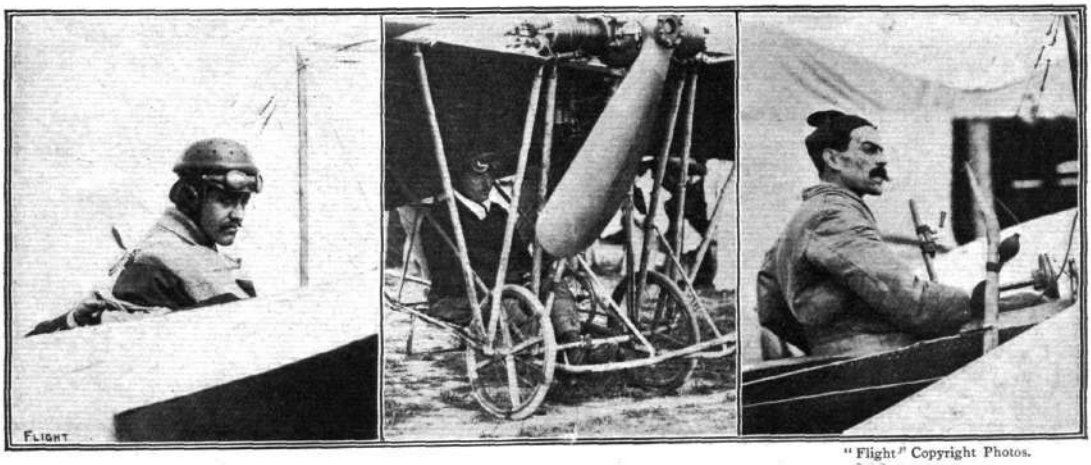
With the Starting Prize on Thursday, the Alighting Prize was also decided, competitors being allowed to try for both with the same flight. The necessity for making a turn in the wind, however, deterred some competitors from attempting the latter feat, although the wind itself was in a favourable quarter. Grahame-White, Christiaens, and Dickson flew for the double event, and the prize was won by Grahame-White, who pulled up 7 ft. from the centre. This seems an excellent result, but it is really very difficult to say that it is worth much. If alighting in a very restricted area were ordinarily necessary, an aeroplane designed for such purpose would presumably be equipped with landing skids, or at any rate with some device that would assist the pilot in bringing his machine to rest. Nowadays about half-a-dozen assistants commonly seize a machine as it comes to earth, and exert their efforts against its momentum, while the monoplanist has a pretty habit of vaulting out of his seat, and similarly helping to stop the machine himself. Under such circumstances it would seem obvious that the stopping of a machine on a given spot is very much of a trick that anyone with a simple and entirely legitimate piece of apparatus could easily surpass. Ogilvie, whose Short-Wright biplane is of the

L. Armstrong Drexel (Blériot).

Capt. Bertram Dickson (Henry Farman). | Hon. Alan Boyle (Avis). | Cecil Grace (Short).



G. A. Barnes (Humber). | Robert Loraine ("Jones") (Henry Farman). | J. Radley (Blériot).



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Leon F. Morane (Blériot). | E. Audemars (Demoiselle). | L. Wagner (Hanriot).

THE FLYING MEN AT BOURNEMOUTH AND THEIR "MOUNTS."

original type, was debarred from this contest unless he chose to fit wheels to his skids. This he did, but having started during the rush that took place within the last 15 mins. of the available time, he found the circle occupied by another machine when he wanted to alight there, and consequently the opportunity was lost.

Thursday's performances included a few more attempts on the fastest lap. Morane (Blériot monoplane) failed to improve on his previous speed of 56·64 m.p.h., but he gave a wonderful exhibition of flying during the early evening. His control of the Blériot is magnificent, and his corner work at the mark towers is superb; he is almost the only pilot who is able to make a straight run on the short side of the course at the hangar end. Everyone else makes a wide turn that carries them out towards the grand stands and enables them to round both mark towers at one sweep. Audemars, on his little "Demoiselle," improved his speed to 45·62 m.p.h., but on the whole entertained the crowd less than on Wednesday. He does many amusing tricks with his tiny machine, such as pirouetting round on one wheel and bowing to the applause of the spectators by elevating the tail. And he flies well, remarkably well considering that such a machine cannot be easy to handle. It is never steady, but pitches along with a curious hurried sort of motion and with its tail in the air as if it were always running down hill. It is fast, and it gives an impression of speed, which cannot be said of the graceful Blériots that glide in an effortless sort of way through the air. This makes it very difficult to appreciate that they are travelling so fast, especially if they are flying at any considerable altitude. The only striking evidence of their speed is the distance that they cover in a very short space of time.

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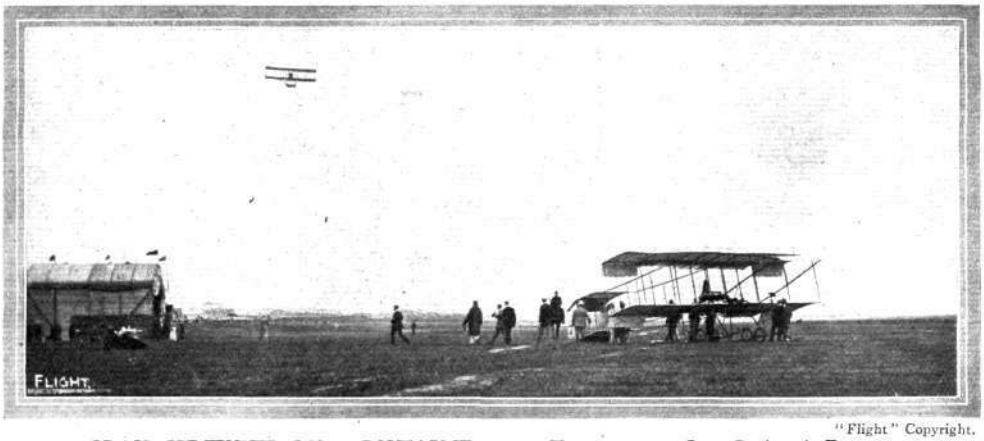
Louis Blériot, who was a visitor at the Bournemouth Aerodrome, takes a turn in the air on one of his monoplanes.

Wagner (Hanriot monoplane) and Grace (Short biplane) also flew for speed, while Dickson and Grahame-White each made two attempts



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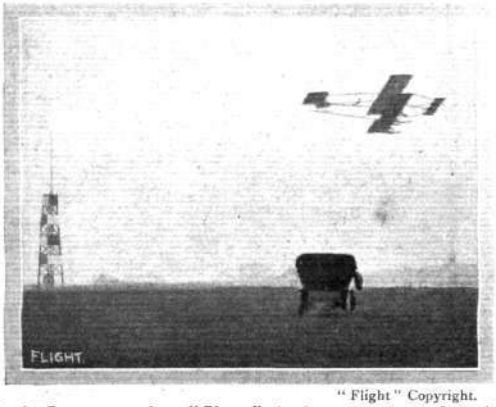
GRAHAME-WHITE ON A DISTANCE FLIGHT.—At rest is Capt. Dickson's Farman.

One sees Morane or Drexel far away in the sky, and having perhaps turned aside for a moment to pass a remark to one's neighbour, one turns again to find the machine just about to alight on the ground.



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Cecil Grace, on his "Short" biplane, gets up for the Altitude Contest.

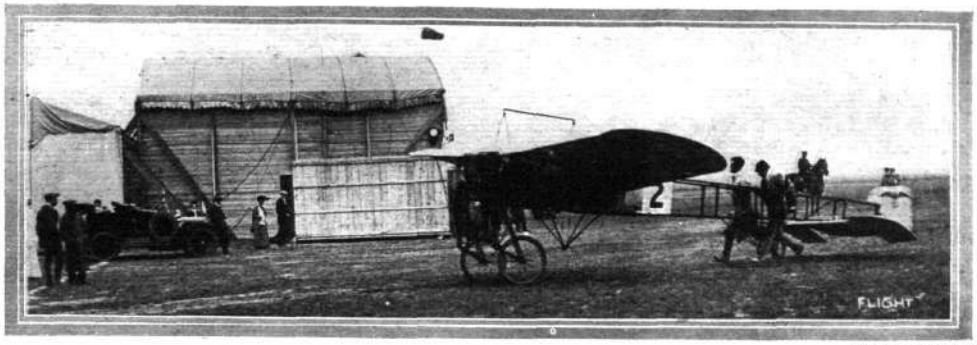
at the slow prize without improving on the record that poor Rolls put up on Monday.

The concluding incident of Thursday's proceeding was unhappily an accident to Rawlinson, who sustained severe injuries as the result of the chassis of his Farman biplane collapsing when he landed on rough ground. It was very hard lines that such a mishap should have been penalised so severely, and Rawlinson showed great pluck that day, for he must have suffered as much as any man could and still keep conscious. We wish him a speedy recovery, which, by the way, he is well on the way to already.

Friday, July 15th.

The officials decided that the weight carrying competition should be finished by 3.30 this afternoon, but until 3 o'clock not a soul stirred from his shed except Morane, and he only ran the engine of his new passenger-carrying Blériot monoplane prior to putting it back in the shed again. In this aeroplane—which, like his other model, appears to be a much better job than the earlier type—the passenger and the pilot sit side by side, and the seat is in the same position as it occupies on the one-man machine. The engine is a *Gnome seven-cylinder rotary, and has an intermediate bearing* between the cylinders and the propeller. The propeller itself is an exceptionally large Chauvière, and it is noticeable that for about one-third of the radius from the boss the blade has an elliptic section. For the rest of the radius the face is, of course, concave.

About 3 o'clock Morane made a practice passenger flight, followed by Christiaens, who broke up his machine on the rough ground, and sustained such injuries that necessitated his removal



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STOPPING A MONOPLANE AFTER FLIGHT.—G. A. Barnes bringing his Humber to rest after being in the air.

to hospital. He was wearing a special helmet at the time, which probably saved his life, for he fell on his head, and the helmet itself was battered. Grahame-White followed Christiaens, but failed to carry his weight with a misfiring engine, and Capt. Dickson, being the only competitor to complete the course with a passenger inside the time limit, was thus declared the winner. Apart from the fact that Dickson thoroughly deserved any prize he won for his good flying, the result of this competition could hardly be considered satisfactory from any other point of view. The proceedings themselves scarcely suggested an event at all, far less anything in the nature of a sporting contest. Nor were they even instructive, for the load carried by Dickson, which amounted altogether to 407½ lbs., represented by a passenger and a little lead ballast, is by no means extraordinary. Morane, who had prepared to carry two passengers in his Blériot, discovered at the last moment that the wing warping connections were broken, and the time limit elapsed before they could be repaired.

After five laps for speed by Wagner a start was made forthe sea flight by Morane, who was followed by Drexel. Morane reached the Needles and returned in 25 mins. 12⅘ secs., having accomplished a journey of 21 miles, of which 18 miles are over the water, at an average speed of 50 miles an hour. It is probable that the actual velocity was considerably higher than this, for it is not altogether easy to steer the shortest course even in a calm, and there was a fair wind blowing during the flight. Drexel, during such time as he was within sight, appeared to be carried far too much to the west, and he was ten minutes longer on the trip than Morane. Both flights were splendid achievements, and must have forced home on the public mind the possibilities of aviation in the future. Watching a machine fly round and round an aerodrome is impressive while it is a novelty, but the actual accomplishment of a cross-country journey or a sea flight never fails to emphasise the fact that flying is a means of locomotion that is already so far advanced as to enable a human being to be transported safely through the air from one place on land to another.

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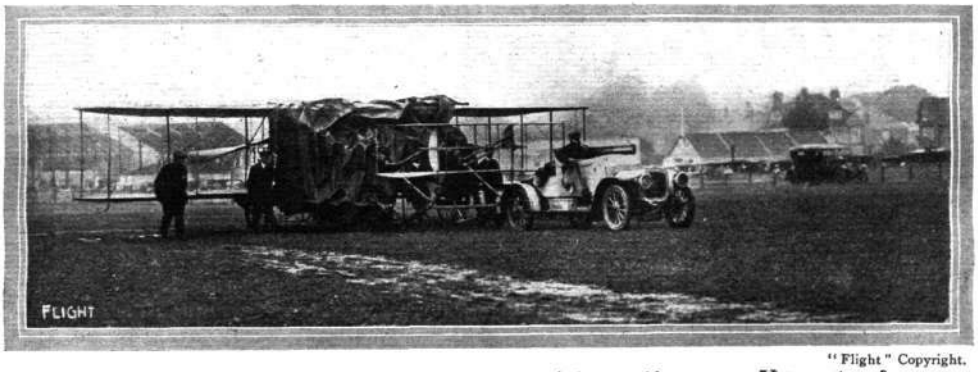
BETWEEN FLIGHTS AT BOURNEMOUTH.—From left to right—Messrs. Grahame-White, Capt. Dickson, J. A. Drexel, and McArdle.

A sporting attempt was made for altitude by Grace during the afternoon in his Short biplane, his tactics being to make long diagonal flights across the aerodrome from the sea shore towards Bournemouth. It was an attempt that is particularly deserving of mention not only because it was a good flight but because in many ways it was a very plucky one. Grace has had the worst of luck with his engines and there is not the least shadow of doubt that he



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Towing back Ogilvie's machine after he was driven down to earth by a sudden storm. Note engine, &c., protected with tarpaulin.

had lost confidence. Nevertheless he worked away steadily and directly he got the motor running satisfactorily once more he immediately entered for the competition although he had very little chance of winning.

A slow flight by Dickson concluded Friday's proceedings.

Saturday, July 16th.

A fair breeze and a cold morning had the exhilarating effect of producing a fine flight by "Jones" on his racing Farman, but the wind was too much to permit of the plucky aviator putting up a good record for the speed prize. Indeed, it was often as much as the pilot could do to keep the course at all, and he said afterwards that the control frequently called for the exercise of considerable muscular effort.

All the morning the weather was cold and grey, so that no one was surprised when a shower of rain immediately followed the luncheon interval. At three o'clock there was a slight improvement, and "Jones"—who is well known in another sphere of life as the actor, Robert Loraine—decided to fly for the sea prize, and promptly made a start under weather conditions that would have deterred, we should have thought, a far more experienced pilot from making the attempt. However, the competition was open, and it was no business of the officials to interfere with the start of a competitor who had decided to take the risks, for, as we have already said, sound judgment is one of the most valuable assets of a pilot, and the man who thinks he can succeed where others feel sure they would fail is the man who is going to do most for the progress of aviation—if he succeeds.

Jones flew out to sea, and in a very short time the expected rain descended in torrents, which caused those on the ground to take refuge in Jones' vacant shed, where they discussed with no little anxiety the probable effects of the drenching on Jones and his machine. Time passed, and he did not return, so that it became certain that he had either landed on the Isle of Wight or alighted in the sea. If the latter had happened, he would be dependent entirely on the assistance of various boats whose owners had volunteered to patrol the course, and it was with no little relief that a telegram was ultimately received from the Isle of Wight stating that an aeroplane had been observed on the cliffs.

One good effect of the rain was to beat down the wind, and the rest of the afternoon was excellent flying weather. This brought the competitors out with a rush, and until the finish of the day and the meeting there was continuous activity, as many as four machines being frequently aloft together. Morane flew several times for speed, and Drexel was also out with his monoplane practising the Frenchman's method of taking corners. Wagner, who had not done very much flying up to that time, also began to show more evidence of his skill in the air, but unfortunately he placed his machine *hors-de-combat* by breaking the chassis when landing. His Hanriot monoplane is characterised with a boat-like hull, a type of construction that we rather expect to see copied in monoplane design, for if well made it is very light for its strength—as witness the sculling boat—and it has the advantage of eliminating a great deal of the wire bracing that seems to constitute the major part of the modern aeroplane. Wire bracing is all very well in its way, but we believe that a change would be welcomed by a good many people. Hanriot, it will be remembered, was responsible for the introduction of the "A" type chassis-frame, which has been adopted in various modified forms on several monoplanes.

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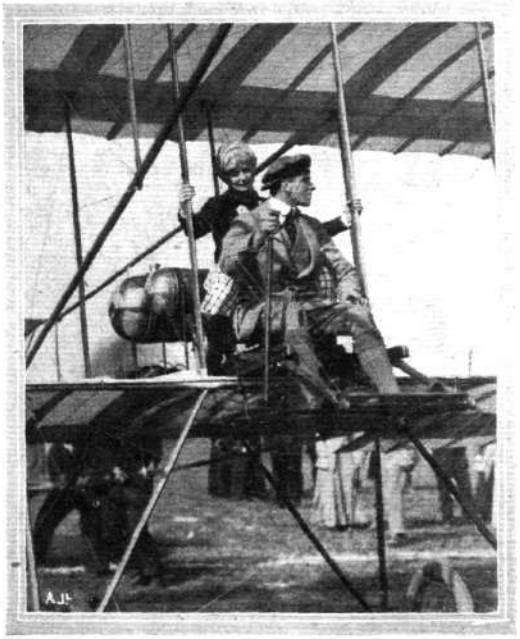
Morane, equipped for his sea flight, before the start, accompanied by (on the left) Mr. Chereau, M. Louis Blériot's British Manager.

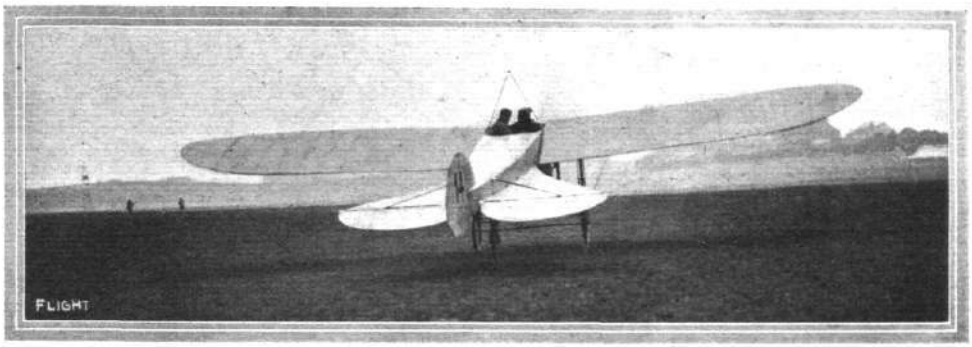


Grahame-White, ready with one of his lady passengers, before the word to let go.—Note the assistants behind holding the machine back from rising.

Another accident unfortunately marred the afternoon's proceedings when the Hon. Alan Boyle was thrown out of his machine after a very short flight. He landed on rough ground and the machine turned over, throwing the pilot on to his head. Once again the special aviator's cap avoided more serious injuries, although Boyle sustained severe concussion, and was unconscious for an hour or more after the accident. Some of the best flying of the afternoon was accomplished by Audemars on his Demoiselle. Dickson made an altitude flight of 1,340 feet, and also an attempt for the longest flight, from which, however, he descended after 12 miles on account of something going wrong with the control. Radley also made an attempt on the longest flight, but he did not have very good luck, for he had to come down after the first lap.

Two prizes being still unwon in the weight carrying competition the officials decided to re-open the contest for second and third places, which resulted in Grahame-White and Morane making passenger flights for this event. Grahame-White lifted 425 lbs. while Morane carried 412 lbs., both loads being in excess of that carried by Dickson, who had already won the first prize.

One of the features of Saturday's flying was a fine performance by McArdle on Drexel's Blériot monoplane. It will be remembered that McArdle on the preceding Sunday flew the machine to Bournemouth from the flying school in the New Forest that he and Drexel control, but the flying during the week was made by Drexel, who was the entrant of that machine. McArdle ascended to a great altitude and flew off in the direction of Bournemouth, from whence he subsequently returned and made a safe descent. Although there was little enough opportunity of judging his skill, the time was sufficient to impress one with his ability and calm confidence;



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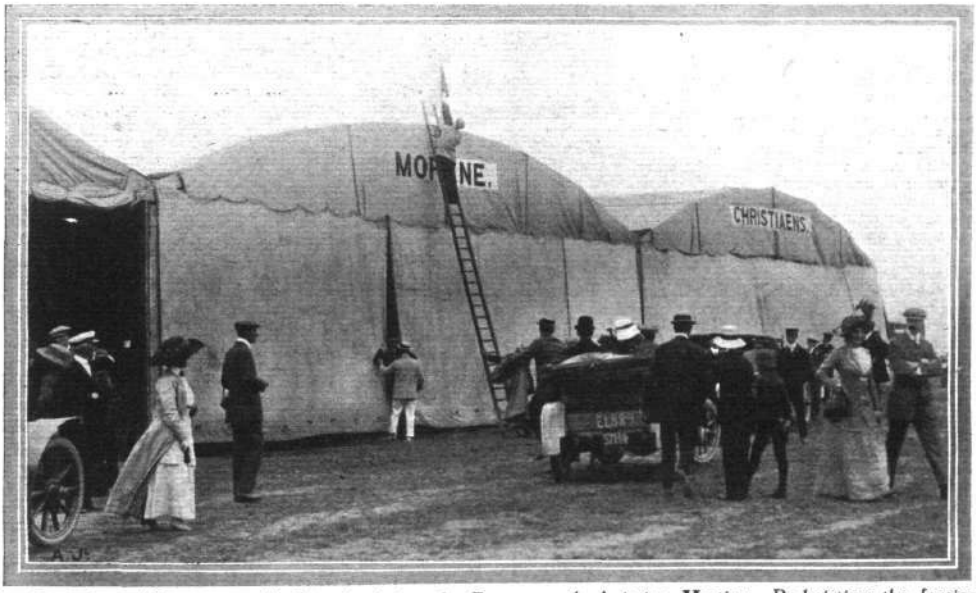
Morane, on his passenger-carrying Blériot, leaving *terra firma* for one of his passenger trials.

moreover, he has a manner of referring to matters relating to flight in a way that suggests he will make an admirable master of the art that it is his object to teach.

THE RESULTS.

The official results of the Bournemouth Meeting are shown in detail in the accompanying table, which gives all the recorded attempts for the different events. It will be observed that Morane (Blériot monoplane), Drexel (Blériot monoplane), Grahame-White (Henry Farman biplane), and Dickson (Henry Farman biplane), were awarded the prizes for general merit, and it is certain that these are the names that would naturally have impressed themselves most on the mind of a spectator who had followed the meeting from start to finish. Morane's flying was superb at all times, and if Drexel stands second in the list to Morane, he at least has the consolation of knowing that he is second to one of the finest, if not the finest, pilot in the world. Grahame-White well deserved to share the second place with Drexel, indeed in point of consistency and regularity Grahame-White's flying during the meeting was unequalled. There were many who thought that his series of passenger flights on Wednesday constituted one of the best feats of the meeting. Dickson's efforts have been praiseworthy throughout; everyone who knew of his determined and successful attempts to uphold British prestige abroad, wanted to see him fly in England, and he did not disappoint them. If he flies his Farman with less nonchalance than Grahame-White, his mastery of his machine is equally sure, and impresses those who see him with confidence in his quiet skill.

The flying by Audemars with his Demoiselle, which figures among the other prizes, and would conceivably have entitled him to a fifth prize in general merit had there been one to award, is something of a speciality. Audemars firmly believed his machine to be the safest on the field, but not everyone would like to take the tosses that Audemars so cheerfully endures. Sitting below the planes, with nothing between the ground and his anatomy, he, nevertheless, seems to come uppermost in the event of a bad landing, and he



The End of an "International" Episode during the Bournemouth Aviation Meeting.—Re-hoisting the foreign aviators' flags over their sheds after the differences had been adjusted in regard to a suggestion by the foreign contingent of preferential treatment for British flyers. The discovery was made that an official's watch was about four minutes slow, which led to a British flyer being allowed to compete and make the best "get off" at two minutes past the hour appointed for the closing of the starting event. The award of the prize, therefore, caused the whole team to haul down their colours with the intention of departing there and then, but happily upon investigation the Frenchmen were found to be right "by the clock"; the award was reconsidered, and the flags were re-hoisted.

declared that the only reason he wore a pilot's helmet was because he found that his head had an annoying habit of hitting the carburettor. The Demoiselle is a fascinating little machine, but it looks difficult to manage; if it were otherwise, we can imagine it would be exceedingly popular with all light-weight pilots. Needless to say, it is not suited to carrying a big man.

Christiaens, who, like Audemars, would have been in the running for a fifth general merit prize, mainly figures for his performance on the first day, when he practically opened the proceedings with a long-distance flight of over 83 miles. He just missed a prize for speed, but won second prize for alighting. His flying in general is not especially sensational, and of course his principal effort, which was for the long flight, calls for stolid endurance rather than anything else. On the other hand his corner work in the attempt for the speed prize was in marked contrast to the same aspect of his long-distance flight. There is no doubt that he is a reliable pilot of the Henry Farman machine.

What there was of Wagner's flying with his Hanriot monoplane was of a high order, but he did not compete very much, and it is doubtful if he succeeded in impressing his name on the spectators to a greater extent than is represented by his third place in the speed prize that alone bears his name.

Next to Grahame-White and Dickson among the English competitors, the performance of Grace stands out most prominently. He had, as we have mentioned elsewhere, persistent misfortune with his engines, which is about the most disheartening thing that can happen to a pilot. Whenever he did fly he flew well, and it is a pity that his performances for altitude and speed should have placed him just below the last prize, for certainly no one tried harder to play the game. Jones' flight to the Needles was, of course, about as sensational as anything that took place, and his previous efforts show him to be a fearless pilot. It is a pity, however, that so much repair work had to be done to his machine, as the result of a former accident, that he was unable to appear until towards the end of the meeting. Radley, who made many determined attempts to win one or other of the prizes, was not fortunate in the running of his machine, while Boyle and Barnes, who also fly monoplanes, had even worse luck. Gibbs was unable to get the planes of his Farman biplane satisfactorily adjusted, so that he, too, fails to figure very prominently among the official results.

Although there was not very much of it, Ogilvie's flying with the Short-Wright biplane is worthy of praise. Whenever he flew he handled his machine successfully and well, but he had the merit of knowing when the weather conditions were beyond his experience, and he had the good sense to stop flying when he was doubtful of success. Like some of the others, he had engine troubles, and once a cylinder head blew off during a flight, which is a sufficiently discomposing mishap for anyone to experience in mid-air. Colmore was unable to do very much flying with his Short biplane, but he appears in the official prize list and was timed for a fast lap, which he accomplished at 35 miles an hour. Rawlinson's flight with his Farman biplane unfortunately ended disastrously for himself.

Cody, who had a very large and apparently very well-built biplane housed in one of the sheds, only made one attempt at flight, and that was a failure, owing to the fact that the machine was equipped with but one engine, whereas it is designed to fly with two motors, set side by side, and driving by chains the same propeller-shaft. Moore-Brabazon was the only entrant who made no appearance on the ground whatever. His machine was not ready on Monday, and on Tuesday, after the fatal accident to Rolls, and as the result of persuasion from his wife and other intimate friends, he decided to give up flying altogether. He was one of the first Englishmen to interest himself in the sport, for he made his first flight in France at a time when to fly for 100 yards or so was considered something of a feat. His greatest achievement was the winning of the *Daily Mail* £1,000 prize for the first circular mile flight on a British machine.

What Rolls himself might have contributed to the meeting, had he been spared, it is, of course, impossible to say; but this much is certain, that it would have been the best he and his machine were capable of offering. Even as it is, his slow speed test—perhaps the most dangerous and difficult that anyone could undertake—stands unsurpassed, so that his name is associated with the only prize in that event. In speed he was second to Grace, but this performance borrows additional interest from the fact that it was carried out under precisely similar weather conditions to that of the slow speed test, and thus establishes useful evidence of the range of speed of the particular machine that he was flying. There is some satisfaction in reflecting that Rolls' last contribution to the progress of flight had this element of instructive interest associated with it, for, above all else, Rolls' work has ever been imbued with scientific thought.

In the individual contests the performances of Morane stand far ahead of all others. In speed his machine was nearly 10 miles an hour faster than any other, and he almost doubled the altitude attained by any other pilot. He did not compete for the longest flight nor for the slow circuit, but in starting he was practically equal to Dickson, and in weight carrying not much below Grahame-White. His sea flight was only surpassed by his altitude as a sensational performance. The fact that Audemars stands second for speed shows how fast the little Demoiselle can travel in the hands of a skilful pilot. Wagner on the Hanriot and Drexel on a Blériot both achieved speeds of over 40 miles an hour, the nearest approach to which velocity on a biplane was accomplished by Christiaens. Of the British built machines the Short biplane flown by Grace was the fastest; that of the same make flown by Colmore won *The Car* all British prize.

Three biplanes ascended to over 1,000 ft. in altitude, but the performances of Morane and Drexel with their Blériots far surpass all others, although not even the 4,107 ft. accomplished by Morane approaches the world's record of 6,175 ft. put up by Brookins on his Wright biplane at Atlantic City, in America. The Bournemouth long-distance flights are relatively indifferent performances compared with the best achievements elsewhere. Grahame-White, who won the prize, flew overtime by special permission, but had to come down when he had gone 90 miles. Christiaens descended as the result of a failing engine after he had covered 83 miles.

The carrying out of the meeting was in charge of the following officials, unrestricted praise being due to the hard and untiring work of the Clerks of the Course, the Timekeepers, and the Organising Secretary:—

Stewards. — Earl of Malmesbury, Lord Abinger, Lord Montagu of Beaulieu, Hon. Arthur Stanley, Sir George Meyrick, Bart., Sir Charles Day Rose, Bart., Lieut.-Col. F. G. Lefroy, Councillor G. E. Bridge, J.P. (Mayor of Bournemouth), Councillor F. J. Bell (Chairman Centenary Fêtes), A. Mortimer Singer, Esq., Roger W. Wallace, K.C. (Chairman Royal Aero Club).

Clerks of the Course.—Mr. Ernest C. Bucknall, Mr. John Dunville, Major F. Lindsay Lloyd.

Timekeepers.—Mr. T. D. Dutton, Mr. A. V. Ebblewhite, Mr. A. G. Reynolds.

Secretary of the Meeting.—Mr. V. Ker-Seymer.

OFFICIAL RESULTS.

General Merit.

Place.	Pilot and Machine.	Prize. £
1.	L. F. Morane, Blériot monoplane (60-h.p. 7-cyl. Gnome)	500
2.	J. A. Drexel, Blériot monoplane (60-h.p. 7-cyl. Gnome)	225
2.	C. Grahame-White, Farman biplane (60-h.p. 7-cyl. Gnome)	225
4.	Capt. B. Dickson, Farman biplane (60-h.p. 7-cyl. Gnome)	50

"Daily Telegraph" Cup and Aerial League Medal for British Pilot.

C. Grahame-White, Farman biplane (60-h.p. 7.cyl. Gnome).

"The Car" Prize for "All British" Machine.

G. C. Colmore, Short biplane (50-h.p. 4-cyl. Green) ... 100

Assistants' Prize for Machines Covering the Greatest Number of Laps.

	Laps.	
1. C. Grahame-White, Farman biplane (60-h.p. 7-cyl. Gnome)	61	60
2. — Christiaens, Farman biplane (65-h.p. 8-cyl. E.N.V.)	52	40

Speed (5 Laps = 8 Miles 1,620 Yards).

	Time. m. s.	m.p.h.	£
1. L. F. Morane, Blériot monoplane (60-h.p. 7-cyl. Gnome)	9 34⅘	55·9	1,000
2. E. Audemars, Bayard-Clement monoplane (35-h.p.4-cyl. Bayard-Clement)...	11 30	46·54	400
3. L. Wagner, Hanriot monoplane (40-h.p. 4-cyl. Clerget)	12 12⅕	43·87	100
4. J. A. Drexel, Blériot monoplane (60-h.p. 7-cyl. Gnome)	13 12⅘	40·52	50
— Christiaens, Farman biplane (65-h.p. 8-cyl. E.N.V.)	13 32⅛	39·54	
C. Grace, Short biplane (65-h.p. 8-cyl. E.N.V.)	14 9⅕	37·38	
Hon. C. S. Rolls, French Wright biplane (30-h.p. 4-cyl. Wright)...	14 39⅘	36·51	
C. Grahame-White, Farman biplane 60-h.p. 7-cyl. Gnome)	14 48⅘	36·12	

	m. s.	m.p.h.	£
L. D. L. Gibbs, Farman biplane (60-h.p. 7-cyl. Gnome)	15 21⅕	34·87	
R. Jones, Farman biplane (60-h.p. 7-cyl. Gnome)	16 17⅕	32·87	

Fastest Lap Prize (1 Mile 1,380 Yards).

1. L. F. Morane, Blériot monoplane (60-h.p. 7-cyl. Gnome)	1 53⅝	56·64	100
E. Audemars, Bayard-Clement monoplane (35-h.p. 4-cyl. Bayard-Clement) ...	2 16⅘	46·95	
Louis Wagner, Hanriot monoplane (40-h.p. 4-cyl. Clerget)	2 24⅕	44·54	
J. A. Drexel, Blériot monoplane (60-h.p. 7-cyl. Gnome)	2 33⅘	41·76	
James Radley, Blériot monoplane (25-h.p. 3-cyl. Anzani)	2 38⅕	40·6	
— Christiaens, Farman biplane (65-h.p. 8-cyl. E.N.V.)	2 38⅕	40·6	
Cecil Grace, Short biplane (65-h.p. 8-cyl. E.N.V.)	2 46⅘	38·51	
Hon. C. S. Rolls, French Wright biplane (30-h.p. 4-cyl. Wright)	2 49⅘	37·82	
C. Grahame-White, Farman biplane (60-h.p. 7-cyl. Gnome)	2 53⅘	36·95	
L. D. L. Gibbs, Farman biplane (60-h.p. 7-cyl. Gnome)	3 2⅘	35·21	
G. C. Colmore, Short biplane (50-h.p. 4-cyl. Green)	3 3⅕	35·06	
Robert Jones, Farman biplane (60-h.p. 7-cyl. Gnome)	3 13⅘	33·21	

N.B.—Jones was timed in a wind officially recorded at 11 to 12 m.p.h. In the other cases the recorded wind does not exceed 7 m.p.h.

Slow Speed Test.

			£
1. Hon. C. S. Rolls, French Wright biplane (30-h.p. 4-cyl. Wright)...	4 1⅘	25·33	100
C. Grahame-White, Farman biplane (60-h.p. 7-cyl. Gnome)...	3 48⅕	28·07	
Capt. B. Dickson, Farman biplane (60-h.p. 7-cyl. Gnome)	3 29⅘	30·61	

Altitude.

	Height. feet.	£
1. L. F. Morane, Blériot monoplane (60-h.p. 7-cyl. Gnome)	4,107	1,000
2. J. A. Drexel, Blériot monoplane (60-h.p. 7-cyl. Gnome)	2,490	400
3. C. Grahame-White, Farman biplane (60-h.p. 7-cyl. Gnome)	1,660	100
4. Capt. B. Dickson, Farman biplane (60-h.p. 7-cyl. Gnome)	1,340	50
5. Cecil Grace, Short biplane (65-h.p. 8-cyl. E.N.V.)	1,161	
6. Hon. C. S. Rolls, French Wright biplane (30-h.p. 4-cyl. Wright)	900	
7. L. Wagner, Hanriot monoplane (40-h.p. 4-cyl. Clerget)	694	

Daily Prizes for Altitude.

Monday.—J. A. Drexel, Blériot monoplane (60-h.p. 7-cyl. Gnome)	2,490	25
Wednesday.—L. F. Morane, Blériot monoplane (60-h.p. 7-cyl. Gnome)	4,107	25
Friday.—Cecil Grace, Short biplane (65-h.p. 8-cyl. E.N.V.)	1,161	25
Saturday.—Capt. B. Dickson, Farman biplane (60-h.p. 7-cyl. Gnome)	1,340	25

Royal Aero Club Prize for British Competitor Ascending to 1,000 ft. in Shortest Time.

			h.p. per 1,000 lbs.	
C. Grahame-White, Farman biplane (60-h.p. 7-cyl. Gnome) ...	m. s. 6 36⅘	ft./sec. lifted. for 1,000 ft. = 2·52 = 4·6		Medal

Other Speeds of Ascent.

J. A. Drexel, Blériot monoplane (60-h.p. 7-cyl. Gnome) ...	6 12⅕	for 1,000 ft. = 2·7	= 4·9
J. A. Drexel, Blériot monoplane (60-h.p. 7-cyl. Gnome) ...	11 45⅕	for 2,490 ft. = 3·55	= 6·5
L. F. Morane, Blériot monoplane (60-h.p. 7-cyl. Gnome) ...	16 57⅛	for 4,107 ft. = 4	= 7·25

Motor Union Prize for British Competitor making Highest Ascent.

	ft.	£
C. Grahame-White, Farman biplane (60-h.p. 7-cyl. Gnome)	1,660	200

Distance.

	Distance. mls. yds.	Time. h. m. s.	Speed. m.p.h.	
1. C. Grahame-White, Farman biplane (60-h.p. 7-cyl. Gnome)	90 1740	2 34 56⅘	35·2	300
2. — Christiaens, Farman biplane (65-h.p. 8-cyl. E.N.V.)	83 1500	2 20 52⅕	35·6	150
3. E. Audemars, Bayard-Clement monoplane (35-h.p. 4-cyl. Bayard-Clement) ...	17 1480	0 27 17⅕	39·3	60
4. Capt. B. Dickson, Farman biplane (60-h.p. 7-cyl. Gnome)	12 860	0 21 52⅘	33·8	40
5. James Radley, Blériot monoplane (25-h.p. 3-cyl. Anzani)	1 1380	0 2 56	36·49	

Monoplane Prize.

E. Audemars, Bayard-Clement monoplane (35-h.p. 4-cyl. Bayard-Clement) ...	17 1480	0 27 17⅕	—	100

Sea Flight (to the Needles and Return, Approximate Distance 21 Miles, of which 18 Miles are over the Water).

	Time. m. s.	Speed. m.p.h.	£
1. L. F. Morane, Blériot monoplane (60-h.p. 7-cyl. Gnome)	25 12⅘	50	800
2. J. A. Drexel, Blériot monoplane (60-h.p. 7-cyl. Gnome)	35 28	35·5	400
3. C. Grahame-White, Farman biplane (60-h.p. 7-cyl. Gnome)...	45 47	27·44	100

Weight Carrying.

	Load, including pilot. lbs.	Time for lap. m. s.	£
1. Capt. B. Dickson, Farman biplane (60-h.p. 7-cyl. Gnome)	407½	3 23	350
2. C. Grahame-White, Farman biplane (60-h.p. 7-cyl. Gnome)	425	3 23⅘	150
3. L. F. Morane, Blériot monoplane (60-h.p. 7-cyl. Gnome)	412	2 37⅕	50

Starting.

	Distance from spot. Yds. ft. ins.	£
1. Capt. B. Dickson, Farman biplane (60-h.p. 7-cyl. Gnome)	35 0 7	250
2. L. F. Morane, Blériot monoplane (60-h.p. 7-cyl. Gnome)	35 0 8	50
3. C. Grahame-White, Farman biplane (60-h.p. 7-cyl. Gnome)	37 0 9½	25
4. Hon. Alan Boyle, Avis monoplane (40-h.p. 8-cyl. E.N.V.)	42 1 10	25
James Radley, Blériot monoplane (25-h.p. 3-cyl. Anzani)..	43 0 9	
L. D. L. Gibbs, Farman biplane (60-h.p. 7-cyl. Gnome)	48 2 4½	
— Christiaens, Farman biplane (65-h.p. 8-cyl. E.N.V.)	50 2 8½	
E. Audemars, Bayard-Clement monoplane (35-h.p. 4-cyl. Bayard-Clement)	51 0 9	

Alighting.

		£
1. C. Grahame-White, Farman biplane (60-h.p. 7-cyl. Gnome)	2 1 0	250
2. — Christiaens, Farman biplane (65-h.p. 8-cyl. E.N.V.)	9 2 3	50
3. Hon. C. S. Rolls, French Wright biplane (30-h.p. 4-cyl. Wright)	26 0 10	25
4. Capt. B. Dickson, Farman biplane (60-h.p. 7-cyl. Gnome)	27 2 1	25

AFTERTHOUGHTS ON BOURNEMOUTH AND SUGGESTIONS FOR OTHER MEETINGS.

Anyone who has spent a full week on the Bournemouth Aerodrome watching the flights must necessarily have come away filled with reflections upon the many outstanding features of that important meeting, and it is not without reason that we now deal editorially with our own afterthoughts, seeing that the aspects of the situation are so various, and the principal conclusions that may be drawn therefrom so important.

There are two distinctly different aspects of a flying meeting such as this—one is its value as a spectacle for the interest of the general public, and the other is its importance as a test to demonstrate the progress of the art. Each aspect again must be regarded from two different points of view: that of the organisers and that of the competitors. A flying meeting is organised solely with one object in view, that of being a financial success; to attain this result the general public must be attracted in large numbers to visit the aerodrome. Those who have never seen a flight at all may reasonably be expected to wait all day in order to satisfy their curiosity about something so wonderful, but this is a *blasé* age, and your general public needs a very lively entertainment if it is to be tempted to patronise an attraction more than once. A few of those more specifically interested might frequent an aerodome for the satisfaction of seeing an extraordinarily fine flight by the foremost pilot of the day, and it is said that some will even attend such places in anticipation of an accident. However true this may be in connection with other forms of sport, we can at least say this of aeroplane disasters, that they are far too cold-blooded to appeal even to the most debased among a British public. Altogether, therefore, it comes down to this, that a flying meeting must provide good entertainment if it is to attract a crowd, and unless it does attract spectators in large numbers there will be no money wherewith to provide those large prizes that recompense the successful pilots for their performances. As an entertainment the Bournemouth meeting was oftentimes dull in the extreme. There was no incentive for the competitors to fly regularly, and a kind of apathy pervaded the proceedings to such an extent that many of the events passed off during the last half-hour that they remained open with little more than an apology for a contest.

From the organisers' point of view this must have been very disappointing. So far as the competitors were concerned, they would naturally suit themselves when they flew, so long as there was no incentive to do otherwise. The result was that the scientific aspect of the meeting as an indication of the progress of flight, suffered considerably. As there are still several flying meetings already arranged to take place, it is not, therefore, without good purpose to consider whether they might not be made more successful.

Of the individual events, those for speed, altitude, and long distance rank first in importance; speed is the chief asset of flight over other means of locomotion, high altitude is a factor inseparable from the military aspect of aviation, and a long-distance flight is the only practical method of satisfactorily demonstrating the reliability of the machine, coupled with the endurance of its pilot. These three things should, therefore, form the basis of the programme; but there is an equally important purpose that might be served by any aviation meeting that extends over several days, and that is the demonstration of the airworthiness of the modern machine in the hands of the average pilot.

The practical utility of aviation appears to us to be far more closely associated with its development into an everyday sort of achievement by a large number of men than with the spasmodic efforts of one or two exceptionally able exponents of the art, so that regular performances by all entrants might well serve as the basis of the allotment of the prize money. It would have been a great thing to have been able to say of the Bournemouth meeting that never an hour elapsed but some machine flew round the course, and we feel sure that there were those present among the competitors who could easily have established this record had they thought it worth while to do so. It would have been splendid evidence of the progress of flying and would have afforded a continuous entertainment to the spectators who have provided the money wherewith the organisers are recompensed for the large prizes that they offer in competition.

The Bournemouth prize fund amounted to £8,000. So does that for the Lanark meeting, and we should like to suggest a little scheme that seems to us to be a more satisfactory way of allotting the money than anything that has yet been adopted.

It will be observed that the suggested programme provides for the winning of £200 an hour in four events of £50 each. It would be open for a competitor to try for speed and distance simultaneously, and he could go on all day long if he chose to do so, and thereby qualify for the two special "record" prizes that would be awarded at the end of the meeting if any one lap exceeded 60 miles an hour, and the consecutive distance flown was greater than 200 miles. There is really no particular point in awarding specially high prizes unless the feats achieved approach those that have already been established as records. Similarly with altitude, there would be a prize of £50 every hour for altitudes exceeding 1,000 ft., and a special prize of £500 at the end of the meeting for the greatest altitude exceeding 4,000 ft. Passenger flights seem to appeal to the general public a good deal, and the hourly weight-carrying prize would conceivably be an attraction to those competitors whose machines are not equal to winning the speed. On the other hand, the special weight-carrying prize of £500 is provided in case any competitor turns up with an exceptionally large machine. Larger machines than those now built must sooner or later come into use, and weight carrying, therefore, deserves to find a place on the programme, although there is no particular reason to encourage the overloading of ordinary machines.

Suggested Prize Scheme for a Prize Fund of £8,000.

Flying to take place from 2 p.m. to 7 p.m. daily.

Event.		Hourly Prize. £	Per Day. £	Per Week (6 days). £
Speed ...	Fastest lap of any consecutive 3 laps...	50	250	1,500
Distance	Greatest distance flown in the hour (*i.e.*, between 2 and 3, 3 and 4 o'clock, &c.)	50	250	1,500
Altitude	Maximum altitude exceeding 1,000 ft.	50	250	1,500
Weight	Greatest weight carried exceeding 400 lbs.	50	250	1,500
		200	1,000	6,000

Special Prizes for Records during the Meeting.

Event.		£
Speed ...	Fastest lap exceeding 60 m.p.h. of any consecutive 3 laps	500
Distance	Greatest consecutive distance flown exceeding 200 miles	500
Altitude	Greatest altitude exceeding 4,000 ft. ...	500
Weight	Greatest weight carried exceeding 600 lbs.	500
		2,000

A prize scheme such as that suggested would enable a good pilot to win very nearly as much as formerly, but would call for a little more energy, and any indifference on the part of the best men would be the opportunity for the less experienced to pick up a £50 prize or so as some recompense for their appearance in the competition. If the funds available exceed the amount stated they might usefully be devoted to the doubling of all prizes for flights taking place in winds exceeding 15 miles an hour.

Very little is gained by starting in the morning; most of the competitors want a considerable time to examine their machines, and proceedings are commonly stopped for the luncheon interval. The best time for flying is generally in the evening, which is just the reason why it is desirable to encourage more practice during the early part of the afternoon before the wind has died down. Nor is any particular purpose served by introducing trick events, as such, into a flying programme at the present time, for at the best they are useless, and at the worst they encourage a man to take an unnecessary risk. The ordinary exigencies of flying at the present time call forth quite sufficient resource in emergency to satisfy any ordinary spectator. If the risk were desirable it would be another matter. We have no patience with the peevish alarmists who would try to stop flying altogether because some of our greatest pioneers have lost in the game of hazard that they themselves chose to play. Life is a game in which we all must lose sooner or later, if it comes to that; and, while no one regrets an accident to a brave man more than we do, nevertheless we honour him for the pluck that he has so usefully applied. It is simply ridiculous to talk as some critics are doing about the present dangers of flying, as if there was no possible chance of minimising them in the future. The pioneer motorist who remembers the limitations of the early automobile, and has recently had occasion to tell a taxi driver that he has five minutes in which to catch a train at Waterloo from—well, never mind where—can very readily appreciate what we mean when we speak of the changes that are wrought by development. It would have been little short of attempting wholesale massacre to have attempted to have transported the thousands of people who now daily employ motor cabs under similar conditions with the earliest kinds of cars, and it must at least be remembered that flying is after all very much in its infancy. Comparatively few of the people who now drive modern automobiles indifferently well would make

much of a show with the very early cars, and it was never particularly safe to have an accident even with a motor car, although, to hear some people talk, one might think that flying was the only kind of experience attended with any sort of danger at all. Just at the present time it happens that flying is rather difficult, and calls for a special sort of temperament that makes it look as if a good pilot is born and not made. What is true of to-day will not necessarily be true of to-morrow, however, and we see no reason why we should not at any rate confidently hope for the time when ordinary flying will be a more or less commonplace accomplishment. There is a great deal in the confidence that is born of custom, and in a very few months we shall see quite a number of pilots doing their corkscrew turns at the mark-posts with the grace and ease of which Morane alone was master at the Bournemouth Meeting. At Blackpool no one thought of such corner work.

Then we suggest that the prizes should be offered hourly, with, if possible, a premium in windy weather to advocate the encouragement of a useful risk. The practical value of flying must, after all, be ultimately gauged by its indifference to climatic conditions. What should we think of the boat as a means of transport if we could only cross the Channel in a dead calm? What we want to find out at these meetings is how much flying can be done in a week of average weather. Bournemouth constituted an exceptionally fine week for England, and there was far less flying than there ought to have been. On the first bad morning, which was Saturday, one of the least experienced of all the pilots (Loraine) promptly flew to the Isle of Wight. It may have been somewhat of a hazardous attempt for him, but that is not the point—he got there. And if he did that then we contend that there was never an hour of the meeting that some one or other of the competitors might not have been reasonably expected to circle the track.

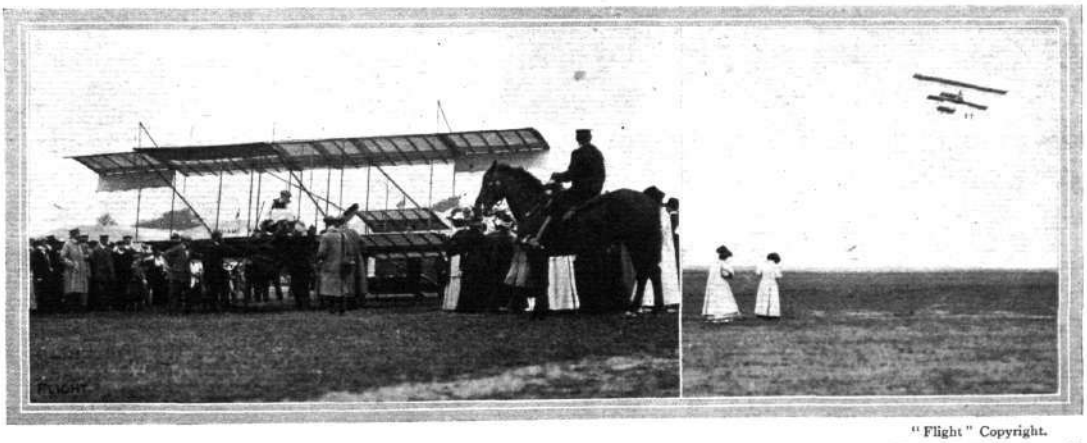
TECHNICALITIES FROM THE BOURNEMOUTH MEETING.

To those who have followed the Bournemouth Meeting with an interest in the technicalities of flying, the event has been a brilliant triumph for the Blériot monoplane and the Gnome engine. Everyone just now seems to want that particular combination, because it is the best thing in sight; but without wishing in any way to detract from the splendid performances of this machine, we would just like to remind our readers that, in similar manner, the majority of those who went to Blackpool last year came to the conclusion that it was no use trying to fly unless they possessed a Farman biplane. Certainly the Gnome engine showed up very well at both meetings, but it is not necessarily the only type in the world that is capable of giving satisfactory results, and we think it a pity if unsuccessful pilots allow themselves to be too despondent about the motors and the biplanes that have failed to stand up to the Blériot and Gnome combination at Bournemouth. Probably Grahame-White, Dickson, and Grace got about as much out of their respective machines as the biplanes of those types are capable of giving, but it remains to be seen whether a biplane cannot be constructed in the future to compete with a monoplane even in speed.

In many ways the monoplane is a nicer sort of type. It looks well in the air, not that that has much to do with it, and the pilot is less boxed up in it, which is an advantage in the event of alighting on water. Seeing Morane or Drexel on their Blériots is naturally to want a machine of the same kind, but it is ill advised to suppose that the constructive genius of our best builders, including Blériot himself, may not soon improve on that machine, excellent as it is to-day. After all, the Wright type biplane has not yet been surpassed for efficiency, and by the time we come to the end of our possibilities of speed from increased engine power we shall necessarily have to look to increased efficiency as the next high road to further advance.

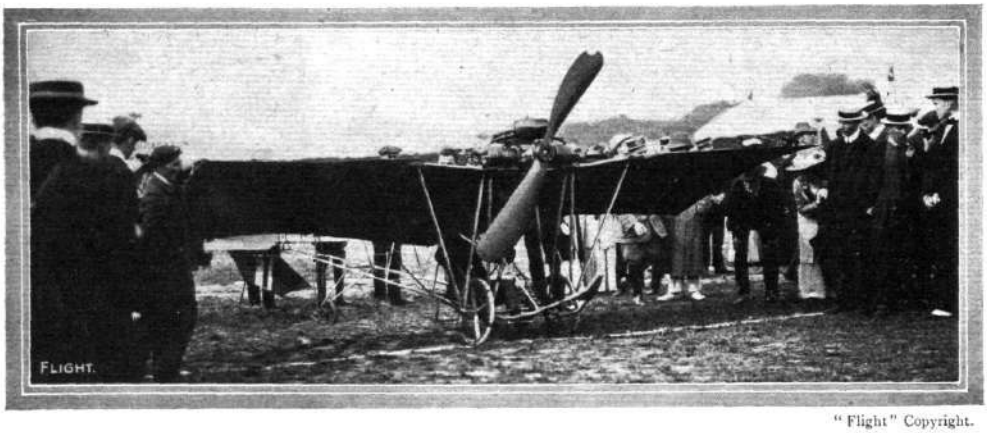
Of the Gnome engine itself there are some useful lessons to be learned, not the least of which is the value of cleanliness and good workmanship in the operation of mechanical appliances. First and last the Gnome engine works at all because it is well made; it continues to work because it is kept clean. When it gets dirty it gets hot, and being an air cooled engine it has a practically unlimited capacity for getting very hot indeed. It does not ordinarily get more than warm, in fact the cooling of the Gnome engine is very remarkable. Its rotation in the air has doubtless much to do with it, but we imagine that a still more important factor is its comparatively low efficiency as expressed by the ratio of horse-power to cylinder capacity. The cylinder capacity of the Gnome engine is very nearly twice as much per horse-power as the best motor car engine of the present day, and it would be instructive to know how far this efficiency could be increased without danger. It is, comparatively speaking, a slow-speed engine, which adapts it to the direct driving of large propellers, and the radial arrangement of the cylinders effects a considerable saving of space and weight that does much to compensate for the extent of their cubic capacity. The fuel consumption of these engines is somewhere about 4½ gallons of petrol an hour, which works out at about ·9 pint per horse-power-hour for a continuous development of 40-h.p., which is about their useful capacity in the estimation of some of the pilots who use them. In addition to the fuel the cylinders also consume about 2 gallons of castor oil per hour as lubricant, so that it is not altogether difficult to appreciate that they should have a tendency to gum up a little after long use. With castor oil at 4*s.* 6*d.* per gallon and petrol at 1*s.* 3*d.*, the cost per mile at 35 miles an hour is about 5*d.* If the cost is proportional to the useful load this is equivalent to 5*s.* 5*d.* per ton-mile for a machine of equal efficiency, which affords some indication of why it is that efficiency is a factor that should not be overlooked, and why it is also that speed, being the chief factor wherein flight surpasses all other modes of transport, must necessarily be encouraged.

In order to clean the Gnome engine it is always taken down from the machine and placed horizontally on a stool that suggests one of those Turkish coffee tables turned upside down. In this position all the cylinders are accessible, and the inlet-valves and pistons are taken out through the cylinder-heads and thoroughly washed in paraffin, so that every trace of oil is removed from the working parts of the valves. It seems to be a good plan to have the inside and outside of the Gnome engine not only clean but bright, in order



"Flight" Copyright.

Robert Loraine ("Jones") on his Henry Farman, ready, with lifebelt on, for his sea flight to Alum Bay—and "en route." Note the lady "snappers."



Audemars starting for one of his trips on the "Demoiselle," alias "Angry Wasp."

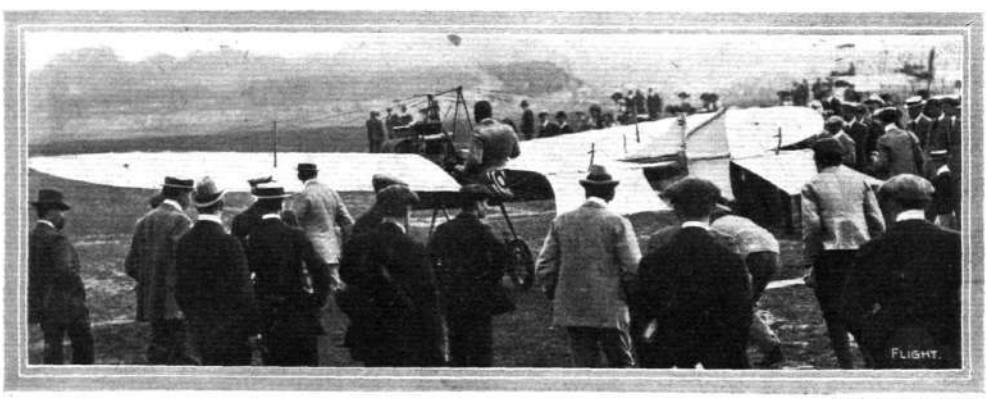
that the change in colour may serve as a ready index to the temperature.

An important lesson that it seems to us Bournemouth has taught is the desirability of developing something in the nature of the disappearing wheeled chassis introduced by Short Bros. at the last Olympia Show. This machine was designed to start on wheels and land on skids, and it seems to us that the latter quality is the only reasonably safe way of all-round landing at present in sight. The Wright Bros. recognised the value of skids for landing from the very first, and there is no doubt that these pioneers knew what they were about in everything they undertook. The Farman combination that has become so popular is nothing but a modified form of wheeled chassis, principally remarkable for its strength and the manner in which it frequently saves the machine in the event of a bad landing on good ground. The skids themselves do not come into contact with the earth except at their trailing edges, unless the wheels carry away by the breaking of the elastic springs with which they are secured. If the landing takes place on rough ground the wheels of the size used at present are almost certain to catch, and, as often as not, capsize the machine or tear away the chassis altogether. This in our opinion constitutes a totally undesirable risk. We contend that the pilot who has flown well and alighted well ought not to be penalised to the extent that he is at the present time, merely because unforeseen circumstances have compelled him to descend on rough ground. With the exception of the accident to Rolls, which took place in mid-air, all the accidents at Bournemouth resulted from descents on bad ground, and we most emphatically consider that skill in design and construction must ever bear the stigma of being behind the art of flying itself so long as the machines of the day fail to afford the pilot proper security when his manœuvres have not been at fault. In every country there is any quantity of open space whereon a machine might land in emergency without damaging even the property to any considerable extent, but it will be a poor thing indeed if the pilot is expected to search about for a few square yards of really smooth surface if he wants to alight without the risk of breaking his neck.

The relationship of high speed and descent appears to be solving itself in the development of the pilot's art. Everyone has, of course, wondered how a flying machine is to be brought safely to earth at the very high speeds that must obtain in the future, but those who saw Morane terminate flights in which the speed was within 50 and 60 miles an hour will already have an inkling of how it is likely to be done. The pilot glides at a sharp angle to within a few feet of the earth, and then with infinite precision and skill suddenly readjusts his elevator precisely so much as is required to suddenly alter the course into a horizontal line. It is common practice to simultaneously restart the engine in order to prevent the machine from losing way too quickly. Properly executed, this manœuvre results in the total abolition of the gliding angle, so that the machine makes contact with the ground almost tangentially, and the occupants scarcely know when they are in the air and when on earth. There is, of course, a very small margin between perfection and safety and clumsiness and disaster, but much the same might be said of many other accomplishments that are practised by men.

Starting, like alighting, is also solving its own equation, for instead of the long and oftentimes futile runs that used to be necessary such a short time ago, machines now get into the air in 35 or 40 yds., and Morane's Blériot seems almost to jump aloft, so quickly does it ascend. The speed of rising possessed by this machine is in the order of 4 ft. per second, which, for a total load of 900 lbs., represents a net expenditure of 6·5-h.p. on ascent alone.

Turning corners is another special department of flying that has developed very much; the modern method, as practised by Morane, being to fly high in approaching the mark tower, and to dive downwards while banking at the curve. This manœuvre avoids loss of speed while making the turn, but of course it calls for the exercise



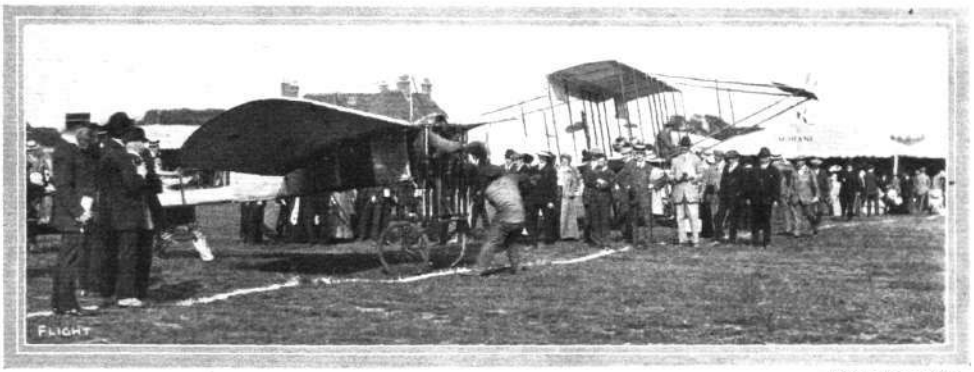
Wagner just getting away for a trial on his Hanriot monoplane.

of proper skill, and necessitates bringing the machine on to an even keel again when the corner is passed. High flying is now generally practised by most pilots, who recognise the safety of getting well up into the air. The advisability of this method is not alone due to the range of ground available in the event of a forced descent; it affords almost the only chance of recovery in the event of a mishap. Speed is one of the greatest factors in stability, and the simplest way of obtaining high velocity in emergency is to execute a dive. This sounds a very dangerous sort of manœuvre, but there is no danger while there is no collision, providing the machine is well built, and if only the angle is properly abolished at the last moment the most dangerous looking descent terminates in safety, in spite of the fact that the landing may take place at a very high speed.

Of the planes used on the machines at Bournemouth, those employed on the new Blériot monoplanes are the most interesting. Morane and Drexel each had two pairs of wings for alternate use, one pair being the lifting wings and the other pair the speed wings. In neither case, however, were the speed wings used. The lifting wings were flatter than the ordinary type, while the speed wings were flatter still, and very much shorter in span.

So far as the question of general construction is concerned, the one fatal accident to Rolls has condemned once and for all the sacrifice of strength for lightness; there is absolutely no excuse whatever for a machine failing in mid-air under any stress that the pilot may be called upon to apply. Whether a man flies well or indifferently, whether he handles his machine gently or racks it in his efforts at control is no matter—nothing should ever give way. The severity of a strain may be an excuse for breaking, but it is no justification for collapse. It is quite certain that the tail outriggers on the French built machine used by Rolls buckled laterally under vertical stress, and were broken by fouling the propellers; this is a lesson that every constructor must take to heart. We are very glad that it did not happen with a British built machine, and it is only fair to Short Bros., who build the Wright machines in England, to emphasise this fact. Short Bros. have at least always recognised the importance of strength, even to the extent of being accused of clumsiness in some details.

It should be mentioned also that the tail, as such, is an innovation on the Wright biplane, and that employed by Rolls had never before been used in England; it was an adjustible tail and worked in unison with the elevator. Some critics have thought that this fact may have contributed to the cause of the accident, but we can see no reason why it should. If anything the manipulation of the tail ought to have reduced the stress on the outriggers under the particular circumstances of the accident. The outrigger spars were very slender, and the outrigger framework as a whole had little or no lateral rigidity.



"Flight" Copyright.

DREXEL OFF ON HIS BLÉRIOT FOR HIS SPLENDID SEA FLIGHT.—Beyond is Grahame-White's Henry Farman also about to take the air.

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PROGRESS OF FLIGHT ABOUT THE COUNTRY.

(NOTE.—Addresses, temporary or permanent, follow in each case the names of the clubs, where communications of our readers can be addressed direct to the Secretary. We would ask Club Secretaries in future to see that the notes regarding their Clubs reach the Editor of FLIGHT, 44, St. Martin's Lane, London, W.C., by first post Tuesday at latest.)

Aeroplane Building and Flying Society.

THE next monthly meeting of this Society has been fixed for Tuesday next, July 26th, at 8.30 p.m., in order to avoid holiday week. It will be held at Percy Hall, Percy Street, Tottenham Court Road. After the usual business of the meeting a paper will be read on "Aerial Propulsion." All ladies and gentlemen interested in aviation are invited to attend.

Dundee Aero Club (3, BALTIC STREET, DUNDEE).

A MODEL aeroplane competition was held in Baxter Park, Dundee, on the 9th inst., in connection with a carnival of sports organised by Mr. W. M. Burke, City Chamberlain of Dundee, the proceeds of which went to aid various charities.

The prizes were awarded to the competitors whose machines won the highest number of points in a series of events comprising long flight, stability, steering, altitude, and a speed event. The winners in Class I, for models under 3 sq. ft. area, were David Urquhart (Dundee Ae.C.), 216 points; G. E. Whitehouse (Dundee Ae.C.), 215 points; J. Brown (Glasgow Ae.C.), 120 points; and in Class II, for models over 3 sq. ft. area, A. P. Blaney (Dundee Ae.C.), 300 points; Sylvester Connell (Glasgow Ae.C.), 200 points; J. Brown (Glasgow Ae.C.), 145 points.

The designs of the models were somewhat original. Two of the models exhibited wonderful stability, especially in landing, which was perfect. The longest flight was 223 ft., that being the limit of the course, which was bounded by trees.

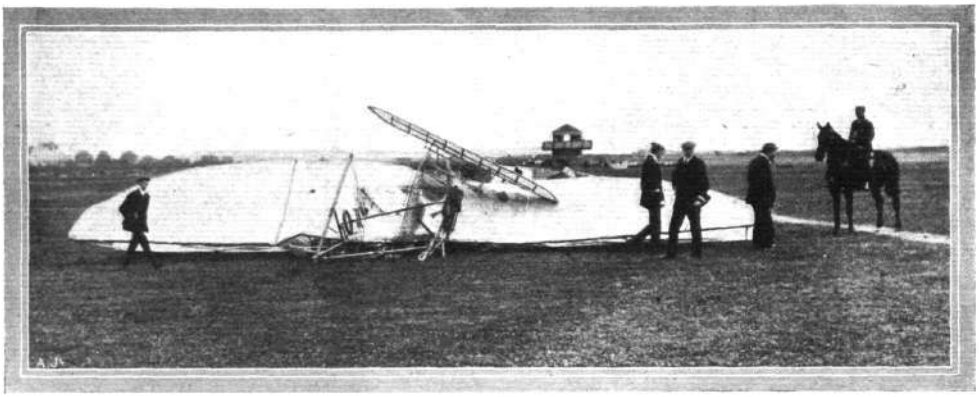
Northumberland and Durham Ae.C. (ROYAL TURK'S HEAD HOTEL, GREY STREET, NEWCASTLE-ON-TYNE).

THE club having become affiliated now with the Royal Aero Club, preparations are in full swing for the Northumberland and Durham (National) Aviation Meeting from September 7th to 10th in Newcastle, and it is hoped that the executive council will shortly be in a position to know how the guarantee fund stands. It is greatly to be hoped that Gosforth Park Racecourse will be obtained, for it embraces an excellent flying area, within easy reach of Newcastle, trams running right to the gates, and a train service within close proximity; and it has the advantage that the public must pay to get in to see any flying, otherwise they cannot see anything by standing outside.

The committee hope to get the "cream of the English aviators" to compete, and given fair weather the four days should produce good flying, and result in a successful meeting.

As regards the club's doings, the aviation ground at Boldon has attracted numerous members and their friends at the week-ends to witness the trials of Messrs. Parkinson, Nyborg, and Elsworth with their monoplanes. The first-named having made several good flights in a straight line on his Blériot, whilst the other two members are also making slow but sure progress with their machines. It is hoped that the above-named members will enter at the coming Newcastle Aviation Meeting.

The fact that members have the privilege of free admission to the aviation meeting ought to be a great incentive to others to join the club at once.



The late Hon. C. S. Rolls' machine at Bournemouth after the fatal accident last week.

AN AVIATION POEM.

LADY BAKER, writing from Ranston, Blandford, says:—

"The accompanying poem was sent to the late Hon. C. S. Rolls (who lost his life on the Southbourne aerodrome on July 12th) some six months ago, and he expressed his warm approval of it, and suggested its publication.

"By a sad coincidence it came out the very morning of his death, having been reserved for the Bournemouth Centenary.

"It is proposed to erect a memorial to him in the little church at Southbourne or on the spot he died, as a 'tribute of sympathy from the mothers of England.'

"A second poem, written the morning after his death, has been written in his memory, and will be sent to subscribers.

"A large number of small sums will be welcome, and arrangements will shortly be made for their collection by sympathising mothers. Meanwhile they can be sent to Lady Baker direct.

"Mothers only are asked to subscribe."

The following is Lady Baker's poem:—

"LEVAVI OCULOS."

Lift up your eyes and see the heavens are telling
The new born secret of a wondrous birth
And in response, in mighty chorus swelling
Goes up in wild acclaim the joy of earth!

Lift up your eyes, and see above you soaring,
White wings that glisten as they wing their way,
Then turn and sweep through cloudland, like the eagle,
That drops relentless on its trembling prey.

Lift up your eyes, henceforth upborne on pinions
That cleave the ether far beyond our sight
Mankind shall rise triumphant through the Heavens,
Lord of Creation, dowered with gift of flight.

Lift up your eyes, if future years shall waft us
O'er trackless paths no human feet have trod,
Perchance our souls may grasp in some dim measure,
The yet un-dreamt of possibilities of GOD.

Lift up your eyes, when shades of evening falling,
Still star-light guides us on our eager quest,
Faith shall join hands with science now to teach us,
Earth is our starting place, but not our Rest.

Then lift your eyes, and lift your thankful voices,
In glad acclaim, that man at last has won,
The gift long sought through all the waiting ages—
And Earth and Sea and Sky at last are one!

AMY BAKER.

The human "fence" instantly formed round the wreckage, at Bournemouth, of the machine of the late Hon. C. S. Rolls, to keep back the public from interfering with the doctors and others who were dealing with the accident.

The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

Committee Meeting.

A MEETING of the Committee was held on Tuesday, the 19th inst., when there were present:—Mr. Roger W. Wallace, K.C., in the chair, Mr. Ernest C. Bucknall, Mr. John Dunville, Prof. A. K. Huntington, Mr. V. Ker-Seymer, Mr. Stanley Spooner, and Harold E. Perrin, secretary.

The late Hon. C. S. Rolls.

The following Resolution was passed:—

"The Committee of the Royal Aero Club desires to express its deep sorrow at the loss of the Hon. C. S. Rolls, and its high appreciation of his distinguished services to the aeronautical movement and to the Club. The Committee further desires to tender its sincere sympathy to Lord and Lady Llangattock upon the heavy bereavement that they have sustained."

The Late Mr. J. Lyons Sampson.

The following Resolution was passed:—

"The Committee of the Royal Aero Club desires to express its deep sorrow at the death of Mr. J. Lyons Sampson, who had rendered great services to the Committee in recent years, and tenders its sincere sympathy to Mrs. Lyons Sampson.

New Members.—The following new members were elected:—

The Hon. Montagu Bertie.	Dr. Cuthbert Christy.
G. Blondeau.	Godfrey H. Cuthbert-Gundry.
Leonard H. Bonnard.	W. Milmer Gibson.
W. G. Burn-Murdoch.	C. Pryce Harrison.
Archibald A. Crawford.	Mrs. Arthur Holland.

Aviation Meetings.

Midland Aviation Meeting.—The Judges' awards in connection with the recent aviation meeting at Wolverhampton were received, and on the recommendation of the Clerks of the Course, the special Medal of Merit offered by the Royal Aero Club was awarded to Mr. Cecil Grace for the best performances accomplished during the meeting.

Cardiff.—A letter was received from the organisers of the Welsh National Aviation Meeting, stating that it would be impossible to hold a meeting at Cardiff this year.

Blackpool.—The plan of the aviation ground for the Blackpool Meeting was considered and approved, subject to the recommendations of the Committee being carried out.

Bournemouth.—Mr. Ker-Seymer, representing the Bournemouth Centenary Fêtes Committee, reported that the whole of the prize money awarded at the Bournemouth International Aviation Meeting had been paid to the successful competitors.

Aviators' Certificates.—The request of the Aero Club de France to grant an aviator's certificate to Mr. Somers Somerset was sanctioned.

Associated Clubs.

The following Provincial Clubs are now associated with the Royal Aero Club:—

Scottish Aeronautical Society.
Bristol and West of England Aero Club.
Northumberland and Durham Aero Club.
East Riding Aero Club.
Manchester Aero Club.

Balloon Race at Hurlingham.

The Point-to-Point Balloon Race for the cup presented by Mr. Griffith Brewer will take place at Hurlingham Club, Fulham, S.W., on Saturday next, the 23rd inst., at 3.30 p.m.

Members of the Royal Aero Club will be admitted to the Hurlingham Club free on presentation of their Royal Aero Club membership cards.

The following entries have been received:—

Competitor.	Balloon.
Major Sir A. Bannerman, Bart., R.E.	"Uranus."
Mrs. John Dunville	"St. Louis."
John Dunville	"Erin."
Capt. E. M. Maitland	"Will o' the Wisp."
B. H. Barrington Kennett	"Comet."
Capt. V. C. de Crespigny	"Aero Club IV."

HAROLD E. PERRIN,
166, Piccadilly. Secretary.

AT BOURNEMOUTH AVIATION MEETING.—Sir Thomas Lipton's yacht party off Bournemouth. From *left to right* (back row)—Mr. Percy Northey, Sir Thomas Lipton, Earl of Hardwicke, Mr. Ed. Manville, Mr. Astley, Mr. Anson Northey, Alderman Bickerstaff, Col. Neill, Sir R. Paget; (front row) Lady M. Paget, Mrs. Pattinson, Miss E. Maitland, Mr. Roger Wallace (on deck), Miss Maitland, Mrs. D. Astley, Miss E. Stevenson.

BRITISH NOTES OF THE WEEK.

Flying Home from Bournemouth.

A SPLENDID performance was made by Mr. Armstrong Drexel on Tuesday, when, having finished at Bournemouth, he decided to return by aerial route to his New Forest Aviation School. Accompanied by a friend, he set off at ten minutes past six on a passenger-carrying Blériot, and, making two very wide circles, rose to a height of 600 ft. He then started in the direction of Lymington, steadily rising to a height of 1,200 ft., passing the Needles meantime, and having a clear view of Loraine's biplane still at rest on the high land at Alum Bay. At 6.40 Beaulieu was in sight, and at 6.52 a safe descent was made on the grounds. Shortly after landing, Mr. McArdle was sighted, he passing on, having also flown over from Bournemouth on the other Blériot.

Isle of Wight to Bournemouth.

ALMOST immediately after Drexel had passed overhead on his way to Beaulieu Mr. Robert Loraine started up the Gnome motor on his Henry Farman machine to return to Bournemouth. Starting from Needle Point Cliff, Alum Bay, he circled over Yarmouth, and then steered straight for Bournemouth, where he arrived after a 25-minute trip, landing in front of his shed.

Flying over Lough Foyle.

AN exciting experience befell Mr. Ferguson on Saturday week. He had flown for three quarters of a mile along the Magilligan Strand and then turned and continued over Lough Foyle for half a mile. On the return journey the wind caught the monoplane and brought it down to the water, but Mr. Ferguson kept the engine going, and although he was drenched with spray, he got the monoplane up again and regained the beach. He afterwards made some other flights, chiefly testing the elevator of the machine.

On the following Monday, Tuesday, Wednesday and Thursday, he made good flights, each up to a mile in length, and yesterday week, the 15th inst., the machine was dismantled and sent to Newcastle, co. Down.

Records up to date.

FOR the convenience of our readers there will in future be found on the last page of each issue a list of the flight records for distance, duration, speed and altitude.

Limitations of space prevent us from giving very exhaustive details, but we believe that the figures we are able to include will be generally appreciated.

A Meeting at Doncaster in September.

IT would appear that there is a likelihood of a flying meeting being held at Doncaster after all, as it is reported the Corporation have given permission for the use of the racecourse during the week commencing September 19th, after the race for the St. Leger.

Cardiff Meeting Postponed.

OWING to local difficulties it has been decided to postpone indefinitely the question of having a flying meeting at Cardiff.

Prizes for Brooklands Flyers.

THREE prizes will be offered by the Brooklands A.R.C. for competition among flyers on the flying ground there on August 1st. There will be no entrance fee, and the three prizes of £60, £30 and £10 respectively will be awarded to the three aviators who cover the greatest aggregate distance between the hours of 2 and 7.30 p.m. No flight of less than half a minute will be recorded, and the aggregate must exceed 30, 15 and 5 minutes respectively to qualify for prizes.

In connection with this, Mr. N. C. Niell offers a £60 silver gilt cup for the aviator who makes the greatest aggregate distance on the afternoons of August 1st and October 5th.

Sheffield Clubs Amalgamate.

AT a well-attended meeting held at the Sheffield University on Friday of last week, the University Club decided to join forces with the Sheffield and District Aero Club. The chair was taken by Professor Ripper, and he was supported by Professor Bowlden, Mr. Patrick Alexander, and Mr. A. V. Kavanagh, Chairman of the Sheffield and District Aero Club, and the chairman spoke of the advantage which would be secured by amalgamation. After this step was decided on, Mr. Alexander explained the apparatus he has presented to the University for testing plane surfaces.

Mr. Cecil Grace to Fly a Blériot.

MR. CECIL GRACE having decided to attain proficiency in monoplane flying has acquired the racing Blériot monoplane flown by M. Morane at Rheims and Bournemouth.

A Glider at Grantham.

MR. HORACE BURTON has been experimenting on Devon Hill, Belvoir, with a biplane glider which he has built. It is of 24 ft. span, the chord of the main planes being 5 ft., while the biplane tail, placed 18 ft. behind the main planes, is 6 ft. 6 ins. by 3 ft. 6 ins.

Model Competitions at King's Lynn.

AN endeavour is being made to arrange an open model flying competition at the King's Lynn Gala on August Bank Holiday, and prizes to the value of £7 will be given. First prize, £3; second, £2; third, £1; fourth, £1. No entrance fee will be charged, but competitors must pay their own expenses.

A Model Club for Belfast.

BELIEVING that if a club were once formed in Belfast, that it go ahead and flourish, a correspondent, Mr. W. J. Armee, Junr., asks whether it would not be possible to get those interested to meet and form such a club. Any readers in the neighbourhood of Belfast, who are in sympathy with this idea, are asked to communicate with Mr. Armee, at 3, Fortwilliam Place, Shone Road, Belfast, when he will arrange for a meeting.

To Practise at Doncaster.

PERMISSION has been accorded by the Doncaster Corporation to Earl Fitzwilliam to utilise the race common for experimental flights. Lord Fitzwilliam is building a shed on his own estate which adjoins the common. A similar permit has also been granted to a Huddersfield gentleman.

Death of Miss "Viola Spencer."

ON Friday of last week, Miss "Viola Spencer" died in the Coventry Hospital, as the result of the injuries she received while making a parachute descent on the previous Saturday. It will be remembered that under the pseudonym of Miss "Spencer Kavanagh," this young lady learnt to fly a Blériot monoplane at the Grahame-White school at Pau, and she gave promise of being a very successful aviatress. Using the name of "Viola Spencer," Miss Edith Maud Cook, as her real name was, had been known for some years for her daring parachute descents. In summing-up at the inquest, the Coroner said he considered parachuting should be reported to the Board of Trade as a dangerous pursuit which should be suppressed. The jury returned a verdict of accidental death, and endorsed the Coroner's remarks.

Short Biplane at the Anglo-Jap.

DURING the week the principal exhibit on the Aeroplane Supply Company's stand at the Japan-British Exhibition has been a Short all-British biplane, which has attracted a considerable amount of attention.

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FUNERAL OF THE HON. C. S. ROLLS.

IN a corner of Llangattock Churchyard, and within a short distance of The Hendre, his father's Monmouthshire seat, all that was mortal of the Hon. C. S. Rolls was laid to rest on Saturday morning.

The service was impressive in its very simplicity, but the blinding flashes of lightning, the loud rumbling peals of thunder, and the pouring rain gave it a setting which will not be forgotten by those whose melancholy privilege it was to be present. At the graveside the chief mourners were Lord and Lady Llangattock, the Hon. J. M. Rolls, the Hon. Lady Shelley, Sir John Shelley, Lady Hood of Avalon, Sir Fitzroy MacLean, Lord Raglan, Mr. Claude Johnson, as well as a large number of friends of the family. Hundreds of wreaths and other floral tributes were received, including those from the Royal Automobile and Royal Aero Clubs, the Aero Club of France, and several other motoring bodies.

Simultaneously with the funeral service, memorial services were held at Saint James's Church, Piccadilly; All Saints', Derby; and the Parish Church, Eastchurch. At the former, which was attended by a large number of members of the Royal Automobile and Royal Aero Clubs, Canon McCormick officiated. His Majesty the King was represented by Mr. E. W. Wallington, Groom-in-Waiting. The service at Derby was attended by the great majority of the employés at the Rolls-Royce works, while the chairman and directors and other officials were also present.

FOREIGN AVIATION NEWS.

Flying Over Paris.

STARTING from the Juvisy Aerodrome, Champel, who has been making several lengthy flights there recently on his Voisin machine, flew over to his home at Sartrouville on Wednesday of last week. He followed the course of the Seine and passed over Draveil, Charenton, Passy, Auteuil, and Mont Valerien, the 50 kilometres' journey occupying three-quarters of an hour.

The day after (14th inst.) Busson determined to try and beat Count Lambert's record flight to Paris. Mounted on his Blériot monoplane he left the Juvisy ground at a quarter past six, and, heading in the direction of Paris, soon passed the Seine and Issy and reached the Eiffel tower. There he turned at a height of 200 metres, and returned to Juvisy, the round trip having occupied 40 mins. Count Lambert's time for the distance of about 30 miles was 59 mins. 39 secs.

A King in an Aeroplane.

THE first King to fly in an aeroplane is King Ferdinand of Bulgaria, who, on Friday of last week, made an aerial trip of a little over 7 minutes with the Chevalier de Lamine on his Farman biplane at Hasselt, in Belgium. The Royal party paid an early visit to the aerodrome, and after Prince Boris, Prince Cyril, and the King's Secretary had made a short flight, His Majesty announced that he could not withstand the temptation. As a result of his experience he has determined to do everything possible to encourage aviation in his kingdom. A day or two previously the Chevalier had taken the Belgian War Minister for a short trip.

Aeroplanes in Sham Fight.

ACCORDING to the Paris *Journal* a remarkable experiment took place at Mourmelon on Wednesday of last week. Lieuts. Clavenad and Gronier received orders to intercept two aeroplanes returning from Rheims. Mounting their Henry Farman biplane, the first to be met was a monoplane, and, ascending above it, the officers on the scouting biplane fired a blank charge, which, if it had been real, would, it is claimed, have put the monoplane out of action. A biplane was then sighted, and an attempt made to attack it from below, but this failed owing to the upper plane of the attacking machine interfering with the firing.

Flying from Vincennes to Issy.

MOUNTING his Henry Farman machine, Lieut. Fequent, on the 12th, flew from Vincennes to Issy. When he arrived on the military parade ground a large crowd assembled, which rendered landing a difficult problem. In avoiding a lady and a baby, Lieut. Fequent brought his machine down suddenly and damaged it slightly.

Chateau now Using a Tellier.

HAVING mastered both the Voisin and Zodiac types of biplane, Chateau has now turned his attention to the Tellier monoplane. At his first attempt he made one circuit of the Draveil Aerodrome; the next day he covered two circuits, while on Saturday last he was flying several times at a good height.

Molon Has to Swim.

MOLON has returned to Havre, and has been practising with his Blériot, which has now a five-cylinder Anzani engine. He has mostly been flying over the sea, and on Saturday covered about 50 kiloms., his speed being in the neighbourhood of 90 kiloms. an hour. On Sunday he was up at a height of 1,000 ft., when the motor stopped. He brought the machine down safely to the surface of the water and then swam ashore.

An R.E.P. Success.

SOME days ago "Pierre Marie"—a pseudonym which hides the identity of a well-known French sportsman—successfully made, on his R.E.P. monoplane, the qualifying flights for his pilot's certificate, and on the 13th he made one of the best flights so far accomplished on an R.E.P. machine. Rising from the Buc aerodrome to a height of 600 metres, he flew over a wide expanse of country, comprising Toussin-le-Noble, Guyancount, Voisin-le-Bretonneux, and Buc, remaining aloft for 45 mins. 25 secs., at the end of which time he stopped the engine and planed to earth. The speed attained was said to be 100 kiloms. an hour.

Doings at Mourmelon.

ON Friday of last week Forest made a flight of 45 mins. on his Voisin machine, and De Ridder was up for an hour on his new racing biplane, while later he carried several passengers. On Monday Henri Bregi took a trip on a Voisin over the country for an hour at a height of 200 metres, and Bielovucie, on a racing Voisin, was in the air for half an hour. Forest was flying in a strong wind for 20 mins. on Saturday.

During the past week there has been considerable activity at the Voisin, Sommer and Antoinette schools, and pupils of each have been flying every day. Laffont is now the instructor at the Antoinette school. Weiss, on his Koechlin machine, has been making some good flights, and on several days has ventured over the country. On Friday he flew over the two Mourmelons and Buoy.

Practice at Juvisy.

APART from the flights across Paris of Champel and Busson, referred to above, there has been a good deal of active work at Juvisy. Ladougne, on Saturday morning, flew for thirty-five minutes on the Goupy biplane, while in the evening he was up for an hour and a quarter at a height of 400 metres. Busson has been out every day, and Didier has also made several good flights.

Circuit de l'Est.

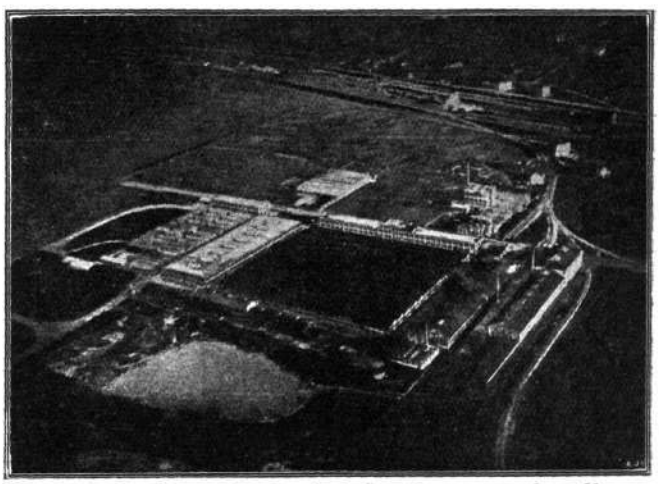
THIRTY-FIVE entries have been received for the aerial race, from 6th to 21st August, for the prize offered by *Le Matin*, and the result of the ballot for order of starting is that Nieuport has drawn No. 1, Breguet being second, Martinet third, de Baeder fourth, and Latham fifth. Other well-known flyers and their places are Aubrun (9), Labouchere (11), Efimoff (15), Morane (19), Leblanc (22), Wagner (24), Sommer (25), Audemars (34), while the last to go will be Simon on a Blériot.

Marseilles Flying Meeting.

ON Sunday last a small meeting opened at Marseilles, but the flying was confined to a few rounds of the course by Cheuret and Fischer on their Farman biplanes, and on Monday these two flyers were again the only ones on the wing. Aubrun and Mdlle. Herveu, with their Blériots, and Vallon, with his Sommer, were ready on Tuesday, and so the proceedings became a little more varied during the succeeding days.

Cattaneo Injured at Lille.

ON the 14th inst. a flying meeting opened at Lille, and Cattaneo met with a serious accident. He had been flying above the surrounding country and when returning to the aerodrome was forced to make a sudden descent. Unfortunately, he landed in a cornfield, and the corn catching in the wheels of his machine caused it to capsize. Cattaneo was thrown out and severely bruised.



Bird's-eye view, from a balloon, of the Daimler motor works at Untertürkheim.

Death of Daniel Kinet.

AFTER surviving the injuries sustained during a fall at Ghent, as recorded last week, Daniel Kinet succumbed on the 15th inst., and another brilliant exponent is thus lost to aviation. Although he only had his first lesson on January 16th last, he quickly became master of his Henry Farman biplane, and was placed in charge of the Henry Farman School at Mourmelon. At the meetings at Palermo, Naples, Marseilles, and Anjou he made splendid performances, and on April 8th he beat the world's passenger record by flying for 2h. 19m. 14⅘s., covering in that time 152 kiloms.

World's Record Flight.

IT is interesting that if the world's record of 392·75 kiloms. of Olieslaegers were set out in a straight line and used as a radius starting from Paris, the circle would pass within easy distance of such places as Weymouth, Salisbury, Oxford, Southwold, Rotterdam, Coblentz, Strasburg, Colmar, Geneva, Lyon, La Rochelle, St. Nazaire, and St. Brieuc.

Flying at Quimper.

A FLYING meeting opened at Quimper on the 14th inst., and although on that day Barrier and Simon on Blériot machines were able to make a few short flights, very little was done on the two following days. Barrier tried to fly on the 15th, but smashed his machine and sustained a good many bruises, while on Saturday, after Simon had been in the air, covering 2·5 kiloms., Cheuret on his Voisin made three ineffectual attempts in the rain to get his machine to fly.

A Welcome Home for Olieslaegers.

ON his arrival at Antwerp on the 13th inst. the Belgian aviator, Olieslaegers, who on his Blériot machine, at the Rheims meeting, beat the world's record for distance and duration, was given a public reception. A tremendous crowd of his compatriots assembled at the station, where he was officially welcomed by the Antwerp Aero Club. A number of his enthusiastic admirers "chaired" him and carried him in triumph to his carriage.

The First Italian Pilot.

THE first pilot-aviator's certificate to be granted in Italy has been secured by Pascal Bianchi, the pilot at the Avis School at Cameri. He used an Italian-built Voisin machine, which in Italy bears the name "Avis."

Good Flight by Dufaux.

HAVING once more got his machine in going order, Armaud Dufaux, on the 12th inst., succeeded in making a flight of 36 kiloms. in 31 mins. 30 secs. at the Viry flying grounds. He is now practising with a view to making an early attempt to cross the Lake of Geneva.

Flying from Denmark to Sweden.

AFTER many attempts Svendsen, on his Voisin biplane, succeeded in flying across the Sound from Copenhagen to Melmoe, in Sweden, on Sunday last, thereby winning a prize of 12,000 kroner (£600), which had been subscribed for by the public of the two countries. The trip, of about twenty miles, was made in 31 minutes, and on landing the aviator was given a very enthusiastic reception, which was repeated when he returned to Denmark by boat later in the day.

De Lesseps in Canada.

DURING the latter part of last week, M. de Lesseps was giving exhibition flights at the Western Aviation Grounds near Toronto, and on the 14th inst., rising on his Blériot monoplane to an altitude of 2,000 ft., he made for Toronto, where he circled the tower of the City Hall and returned to his starting point, the total distance being about 20 miles. As he stepped out of his machine the enthusiastic crowd wrapped M. de Lesseps in a French flag and carried him to the grand stand. On Saturday he was flying at a very great height, and afterwards planed down to earth, while on Sunday he went up to an altitude of 914 metres.

American International Flight Meeting.

IT is now announced that the American International Meeting will commence at Long Island on October 15th, one week earlier than the original date. The Gordon-Bennett Cup will be competed for on October 18th.

Curtiss Flies for an Hour.

LAST week Glenn Curtiss was continuing his bomb dropping experiments, and on Thursday, while flying at 40 miles an hour, he succeeded in dropping a large percentage of missiles, in the shape of oranges, on to the deck of a ship 400 ft. beneath him. On the 13th inst. he was in the air for 1h. 14m. 59s., at a height of 1,400 ft., over Atlantic City.

Hamilton has a Tumble.

ON the 14th inst. Charles Hamilton, who recently made such a splendid cross-country flight in America on a Curtiss machine, was induced to conduct some tests with a biplane designed by a student of Columbia University. The machine rose in the air, but immediately afterwards fell down again, and Hamilton was slightly injured.

Reported Suicide of Lieut. Pfitzner.

DEPRESSED by his inability to obtain great success with his novel monoplane, illustrated in FLIGHT of March 12th, 1910, Lieut. Pfitzner is reported to have drowned himself close to Boston on the 12th inst. He had made several short flights, but was greatly disappointed because he was unable to keep going for lengthy periods.

AIRSHIP NEWS.

"Beta" Back at Aldershot.

THE Army airship "Beta" did not reach Bournemouth on Wednesday of last week, a broken crank-shaft necessitating a descent near Andover. The landing was made successfully, and the airship was then towed to the shelter of a chalk pit at Bury Hill. There the engine was repaired, and the next day the airship returned safely to Aldershot. The 42 miles were covered in 4 hours 20 mins.

A 30-Mile Trip by "Beta."

ON Tuesday a circular flight of about 30 miles in length was made, the trip taking a little under an hour. The dirigible was steered by Col. Capper, with Lieut. Ridge in charge of the engines, while General Scott Moncrieff, Chief Engineer at Aldershot, was a passenger.

Three Dirigibles over Paris.

DURING last week Parisians got quite used to seeing dirigibles hovering over their city. On the 13th inst. Count de la Vaulx took his "Zodiac III" to Issy, where the "Ville de Bruxelles" was already stationed, and later in the day the "Colonel Renard" arrived. On the following day, all three made excursions over Paris, and Comte de la Vaulx, who was at the disposal of the military authorities, indulged in some despatch carrying. Setting out from Issy on "Zodiac III" he went to the Champs Elysées, and after receiving there a reply to the despatch he carried, returned to Issy. On Friday the three dirigibles cruised over Paris, and after rounding the Eiffel Tower returned to Issy.

"Clement-Bayard II" Out Again.

ON Friday of last week the "Clement-Bayard II" was taken out from her shed and cruised successfully for 1 hr. 20 mins. over Compiegne.

The Parseval Dirigibles.

ON the 13th inst. "Parseval VI" sailed from Bitterfeld to Dresden, where a large crowd, including the King of Saxony and Prince George, assembled to greet the airship. It was intended that the airship should go on to Munich or Gotha, but on the following day it returned to Bitterfeld, making a descent at Wurzen for a slight repair. On the same day "Parseval VII" made a successful trip from Breslau to Alshude.

A start was made on Sunday to take "Parseval V" from Kundowa to Breslau, but at the first attempt, after half-an-hour, the airship returned to her starting place owing to the envelope and cords having become very heavy through the rain. Four hours later a second attempt was made, but after an hour's run the dirigible was brought down at Glatz and packed up to complete the journey by rail.

German Aerial Manœuvres.

THE German Military aerial manœuvres commenced on Saturday last, when "Zeppelin I" made a successful tour of recon-

The wrecked "Erbslöh" airship after its terrible fall last week.

naisance which lasted several hours. She started from Metz, and carrying a crew of ten officers and men, besides several staff officers, she cruised above Thionville in order to take observations of the military operations in progress there. A Gross and a Parseval are also taking part in the manœuvres.

Disaster to Erbslöh Dirigible.

ALTHOUGH it will probably never be known exactly what caused the disaster to the Erbslöh dirigible on Wednesday of last week, there is no doubt that the gas envelope burst, and the experts incline to the belief that it was due to the fabric of the envelope, which was also much worn, being overstrained by the expansion of the gas when the airship ascended to a great height. When the craft rose from Leichlengen, the only unfavourable condition was that a thick mist hovered over the ground. After cruising for some time at a height of 200 metres the vessel rose to 750 metres and then descended to 280 metres, when the accident occurred. The five occupants of the car, Herr Erbslöh, the designer, a friend named Poelle, two engineers, Kranz and Hollp, and the mechanician, Spiecks, were instantly killed. Herr Erbslöh was an experienced aeronaut, and in 1907 won the Gordon-Bennett balloon race in America. He had formed the Rhenish-Westphalian Motor Airship Company to build the airship, with which he had been experimenting since last autumn. The airship was of the non-rigid type, 176 ft. long and 33 ft. in diameter, and was fitted with a Benz motor of 125-h.p.

Italian Dirigible Out Again.

ON the 14th inst., the Italian military dirigible left Bracciano, and cruised for some time above Rome.

The Zorn Dirigible.

ACCORDING to the *Magdeburger Zeitung*, the chief characteristics of the new Zorn airship, in which the German War Office is evincing great interest, are that the framework is of wood, and made in three sections, each a complete unit with its balloon, car, motors, &c., so that in case of necessity or expediency the dirigible can be divided into three separate airships.

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MORE PILOT-AVIATORS.

IN our issue of May 28th, p. 408, we published a list of those who up to that time had been granted the *pilote-aviateur* certificate of the Aero Club of France. Unfortunately, by an error, the names of five official observers were placed at the end, so that the number was 81 and not 86 as shown. Since then a further 42 certificates have been issued, and the recipients are enumerated in the following list, which also indicates the machines on which they qualified :—

82. Lancelot Gibbs (H. Farman)
83. Louis Wagner (Hanriot)
84. Andre Taurin (Blériot)
85. Maurice Colliex (Voisin)
86. ReneLabouchere(Antoinette)
87. Jean Bielovucic (Voisin)
88. Henri Pequet (Voisin)
89. Capt. Eteve (Wright)
90. Capt. Marconnet(H. Farman)
91. Ernest Paul (Voisin)
92. Louis Gibert (Blériot)
93. Andre Frey (Sommer)
94. Florentin Champel (Voisin)
95. Marcel Hanriot (Hanriot)
96. Jean Dufour (Voisin)
97. Com. Clolus (Antoinette)
98. W. Lebedeff (H. Farman)
99. Marcel Paillette (Sommer)
100. Ed. Audemars (Demoiselle)
101. G. Blondeau (H. Farman)
102. Armand Gobe (Antoinette)
103. Edouard Dufour (Blériot)
104. Albert Niel (Voisin)
105. Edouard Nieuport(Nieuport)
106. Capt. Madiot (H. Farman)
107. Charles de Baeder (Voisin)
108. Vallon (Sommer)
109. Maurice Clement (Clement)
110. Leon Bathiat (Breguet)
111. Alexandre Laffont (Sommer)
112. Robert Savary (Savary)
113. Paul Hesne (Breguet)
114. Maurice Nogues (Savary)
115. James Scwade (H. Farman)
116. Rene Thomas (Antoinette)
117. Marcel Granet (Blériot)
118. Emile Duval (Saulnier)
119. Jean Daillens (Sommer)
120. Andre Bouvier (Sommer)
121. Guillaume Busson (Blériot)
122. Andre Noel (Blériot)
123. Georges Mahieu(H. Farman)
124. Ruchonnet (Antoinette)
125. Maurice Tabuteau (M. Farman)
126. Adrien Verliac (Antoinette)
127. Clément Van Maasdyck (Antoinette)
128. Lieut. Maillois (Wright)
129. Lieut. Chevreau (Wright)
130. René Vidart (Hanriot)
131. Paul de Lesseps (Sommer)

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A WIND GAUGE AND AN ALTIMETER.

TWO instruments for aviators, made by J. J. Hicks and Co., are illustrated by the accompanying photographs, one of which shows a small wind gauge and the other a compensated aneroid barometer.

The wind gauge or anemometer is divided on six dials to show from one 100th to 10,000 miles. The wind blowing upon the cups rotates the vertical spindle, and the velocity is calculated from the measured amount of wind that is passed in a given time. The instrument is provided with a floating card compass in the base and a wind-vane so that the direction of the wind is automatically indicated. The altimeter differs from the ordinary pocket aneroid in having a self-registering mechanism so that it

can be used in order to ascertain the height to which an unmanned kite or balloon rises. By pressing a button the pointer is automatically set to read the mean atmospheric pressure, and this is reckoned as zero altitude by turning the movable scale accordingly. The instrument is then attached to the balloon or kite, and the pointer is automatically held stationary at the maximum altitude attained, but it can, of course, be set again to zero by pressing the button.

CORRESPONDENCE.

**** The name and address of the writer (not necessarily for publication) MUST in all cases accompany letters intended for insertion, or containing queries.*

Correspondents asking questions relating to articles which they have read in FLIGHT, would much facilitate our work of reference by giving the number of the letter.

NOTE.—*Owing to the great mass of valuable and interesting correspondence which we receive, immediate publication is impossible, but each letter will appear practically in sequence and at the earliest possible moment.*

TO COMMEMORATE THE LATE HON. C. S. ROLLS.

[634] The sad and lamentable loss of the life of the Hon. C. S. Rolls, I think, all the more emphasises the suggestion I lately put forward by your kind permission, for a memorial of the great record he made in his double cross-Channel flight.

We now have to mourn in his loss a leading pioneer of new means of locomotion and aviation, and thus beyond the record of a great event, to record the loss of one who has done much for his country's advancement in these directions.

His brilliant career deserves indeed (and I hope the public will think it demands) a personal memorial which shall show that we are not unmindful of those who lead the van for the progress of knowledge and risk to lose their lives in these brave efforts.

WALTER EMDEN, Mayor of Dover.

2, Lancaster Place, Strand, W.C.

YORK RACECOURSE AS AN AERODROME.

[635] I should like to say a few words concerning the racecourse at York as a flying ground. The flying space would be approximately two miles long by three-quarters of a mile broad; it is absolutely without trees except at the outskirts, it is flat and without ditches or bushes of any kind except at the edge. York is not far from any of the great towns, as it is an important railway centre, and is connected with all the important European ports by an excellent train and boat service. The race committee have recently enlarged the stands and accommodation for the visitors. York is by no means a windy place, so taking it all round I think it is one of the very best aviation grounds in England or on the Continent. I think it is many times superior to the ground at Doncaster, Blackpool, or Brooklands.

It has been a surprise to many that an aero club has not been formed at York. I know of many who would readily join one. Hoping to hear of one being formed.

York. A. MASON.

THE GNOME ENGINE.

[636] In your issue of July 16th the makers of the Dreadnought rotary engine are loudly decrying the Gnome engine for "this old-fashioned and unmechanical system of passing the petrol mixture into the cylinders *through hollow piston-rods.*"

Evidently their experience of Gnome motors is very limited, or they would know that this engine never has, and probably never will have, hollow piston-rods.

The rods in question are of H section just the same as those of automobile engines.

Hampstead, N.W. B. G. BENSON.

AND THE DREADNOUGHT ENGINE.

[637] The "full particulars" of the Dreadnought engine are at once, "interesting, amusing, and instructive," and we suppose it is now assumed that the existing makers of flight engines will be "absolutely annihilated," and forthwith close shop.

The poor old Gnome engine evidently has to take a rear seat after this onslaught of the Dreadnought, and all because the designers of the Gnome never thought of using motor car fat for lubrication, and mechanical inlet-valves to admit the charge. It is a pity that the inventor will so frequently persist in assuming that his ground has never been previously trodden. Moreover, this attitude insinuates a lamentable lack of grey matter where such is by no means merited. A moment's consideration should reveal the apparently obvious truth that, as the designers of the Gnome engine are not fools, they have given the matter of valve gear exhaustive thought and experiment, and the resultant design of inlet-valve in piston (and not "piston-rod" as the Dreadnought would inform us) is a beautiful and direct method of admitting the charge, and a better solution to this portion of the rotary motor problem would be difficult to conceive. Personally, however, we do not consider that the rotating cylinder presents any tangible advantage over the stationary type, except in the matter of cooling, and the inherent disadvantages are very obvious to those who are conversant with the pros and cons of the respective types.

Reverting to our friend the Dreadnought, we are pleased to note that each engine is to be subjected to 100 hours non-stop bench test in the presence of the purchaser. The humour here again appeals irresistibly to us, and we are of opinion that after this fusillade in the ear of the poor man, he would be too dazed to raise any question as to which side should pay for the 500 galls. of petrol which had necessarily vanished during the test, not to mention the motor car fat expended during the infliction. In conclusion we must confess to a lack of conviction, and also to a feeling of equanimity regarding the continued prosperity of our friends the Green engine, the Wolseley, the N.E.C., and others, not omitting ourselves.

ALVASTON MOTORS, per A. B.

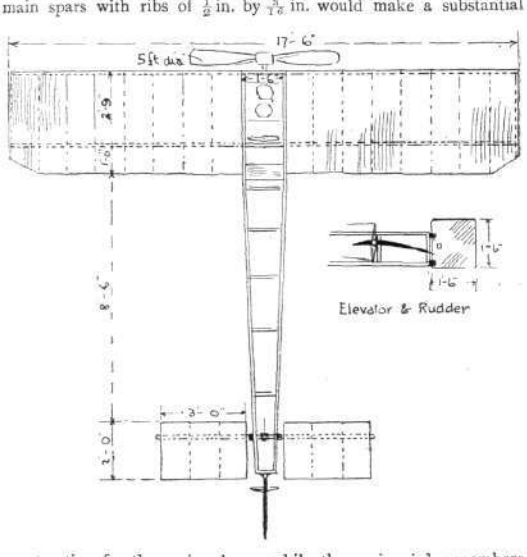
EXPERIMENTAL MONOPLANE.

[638] I am making a monoplane, 17 ft. span and 13 ft. long. Not knowing very much about the subject, I should be much obliged for a little advice from yourself or your readers. I am in doubt as to the best size for the timber and the probable horse-power required, also the best material to surface the planes.

I have taken your excellent paper in from the beginning, and have learned so much from it already that I feel I may be excused for asking these questions.

C. A. BONE.

[The accompanying sketch illustrates our correspondent's design, and we should imagine that a cross-section 1⅜ in. by 1 in. for the main spars with ribs of ½ in. by $\frac{3}{16}$ in. would make a substantial



construction for the main planes, while the main girder members might taper from a section of 1 in. sq. in front to ¾ in. sq. at the tail. An engine actually developing about 20-h.p. would probably be required for flight.—ED.]

HELICOPTERS.

[639] Can you kindly inform me through the medium of your excellent paper, which I read every week, whether a flying machine of the helicopter type has ever raised itself, engine and pilot (or a weight equal to that of a pilot) from the ground? If so, what machine, and when and where did it take place?

Thetford. W. A. HARVEY.

[The experiments with helicopters which have so far been brought within our own notice have unfortunately been of a very inconclusive character, although various references have at different times been made in FLIGHT, and previously in the *Automotor Journal*, to the claims of inventors. If any of our readers have authentic information of a definite character on this subject, we shall be pleased to hear from them.—ED.]

AUTOMATIC STABILITY DEVICE.

[640] Having been a reader of your valuable paper from its beginning, I beg to ask you whether in your opinion the diagram enclosed would give perfect automatic stability, and whether it is original. I should be glad too if any readers of FLIGHT could help me to improve upon it, if they can see any imperfections in it.

Fig. 1.—The monoplane on even keel. B and B^1 are hinged flaps affixed to the rear extremities of the main planes. C and C^1 are pulley wheels through which a flexible wire, E and E^1, passes from the swinging portion, D, to the hinged flaps. A is the pilot's seat affixed to D.

Fig. 1.

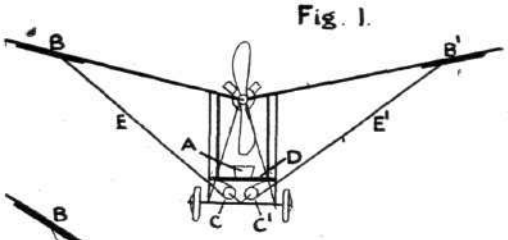


Fig. 2.

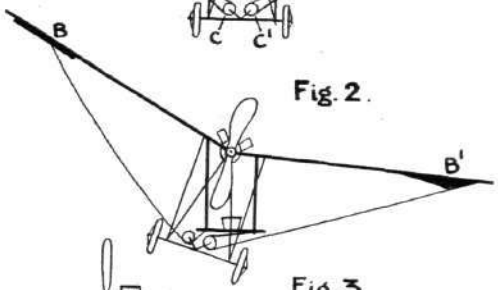


Fig. 3.

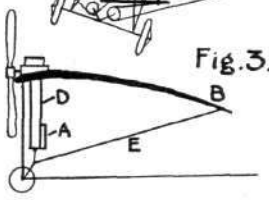


Fig. 2.—The machine cants, and the swinging part takes up a position at right angles to the horizon, causing the flexible wire on the side which is dropping to pull down hinged flap, B, thus causing that side to rise, and the monoplane regains its ordinary position.

Fig. 3.—Side view of monoplane. The swinging portion is hinged to the main frame of monoplane, and can only move sideways, not fore and aft.

Cambridge. H. LAURENCE NUNN.

[The general principle involved in the above idea, that of utilising the pendulum action of a suspended weight, is not original, and is open to many objections. Although a pendulum may solve many difficulties in theory, its practical working as a method of control is often disappointing, as the pendulum itself is apt to be the cause of disturbances that are worse than those it seeks to abate.—ED.]

MONOPLANE GLIDER.

[641] We are making a glider similar to a Blériot monoplane. Will the following dimensions be suitable for carrying a boy of 7 stone? Main plane: Span, 15 ft.; chord, 6 ft.; area, 90 sq. ft. Tail: 6 ft. by 3 ft.; area, 18 sq. ft. Length overall, 15 ft.

Also is it necessary to use special aero fabric, or will fine canvas do?

Ilkeston. W. F. AND L. FLETCHER.

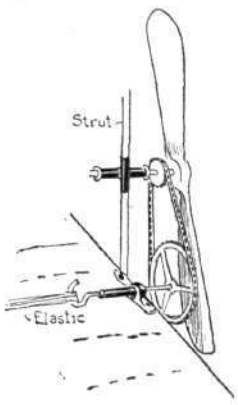
[The area of the monoplane is hardly sufficient; even neglecting the weight of the machine itself the loading is very nearly 1 lb. per sq. ft., and it is preferable not to exceed ¾ lb. per sq. ft., after taking every weight into consideration. If a higher loading than this is attempted in the first instance, it means gliding at higher velocities, which are difficult to acquire in still air, or to commence gliding in a high wind, which is a source of danger until experience has been gained. Satisfactory results in experimental gliding are much more likely to result from copying the Wright glider, which is known to have been successful, than from copying a machine that has never been used except under power.

Special aero fabric is desirable because it is less affected by the weather, but it is not essential. The Wright Brothers used unproofed fabric on their machine.—ED.]

MODELS.

ELASTIC MOTORS.

[642] Having noticed that it seems to be rather a difficult matter to obtain a successful elastic motor, geared down, I enclose the following directions with sketch, which I thought may be of some use to readers of FLIGHT. As you see, the gear is for use on a biplane, and it may be pretty well seen from the sketch how it is constructed. The bearing for the propeller-shaft is fastened to one of the canes that support the upper plane. To keep the shaft from slipping about, get two rings of metal and place them one at each end of the bearing as illustrated, and then solder them down to the shaft. The bearing for the lower shaft is screwed down to one of the cross members of the plane. The power is transmitted from the large cog wheel to the small one by means of a strong thin leather belt, with holes punched in to suit the cogs, and it must be kept very well oiled to keep it flexible. Hoping you will find room for this in your valuable paper.



Chapeltown. G. C. HOLT.

TRACING LINEN AS FABRIC.

[643] I am now using tracing linen, which I find very good as fabric for models. It can be bought at stationers' for about 6*d.* a square yard. It is very light, will not tear, and is quite air-tight. Wishing your valuable paper every success.

Oxford. M. SAVAGE.

SILVER-PLATED ALUMINIUM.

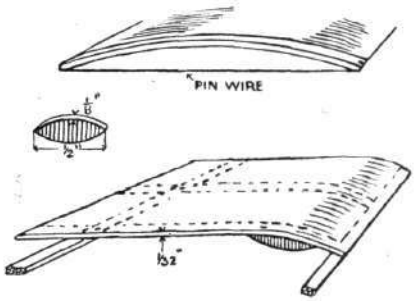
[644] May I suggest through the medium of FLIGHT that aluminium, sheet, wire, &c., for making models should be sold lightly copper- or silver-plated so that it can be soldered.

This should not add greatly to either the cost or the weight.

Earl's Court. W. LANGDON-DAVIES.

CAMBER IN MODEL PLANES.

[645] I enclose a sketch of light single-surfaced planes showing two methods of cambering them. Possibly they may interest readers of FLIGHT. The size of block, also the curve, can be made to suit



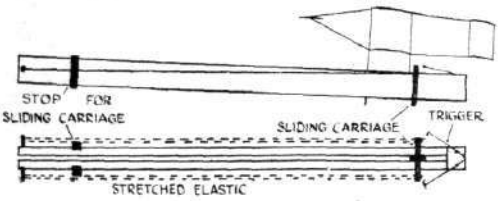
size of plane and camber required. I might add that I use good pine for construction throughout. Wishing your helpful journal every success.

Harringay. F. H. STIRLING.

LAUNCHING GEAR FOR MODELS.

[646] I follow with great interest the correspondence pages of your valuable paper, but up to the present have seen nothing of what may be described as a shooting apparatus for models, the flights of which are very limited owing to the short run of the motors. Do you think it possible that models could be successfully launched into the air by means of a rubber or spring shooting-rail as roughly sketched, enclosed? It is in fact a form of catapult, but so made as to ensure the model leaving the rails in a smooth and

well-balanced manner. It is obvious that an extraordinarily forceful thrust could be obtained by this apparatus. Probably some of your readers would like to take it up for a trial. The model could be so made that as soon as the force was spent and it was about to drop, to automatically start its own petrol or rubber motor which would thus prolong the flight at whatever height the model had reached.



One great advantage of this idea, if workable, would be the extraordinarily great heights the model could be sent to, which would give inventors a good idea of the gliding power of their models. Trusting the idea may be of some use.

Folkestone. RICHARD T. SAUNDERS.

[The utility of a launching apparatus depends entirely on whether the natural speed of the model is too high to enable it to be successfully launched by hand. Small models made of paper and mica are preferably launched by hand, because they are so delicate, but larger models can be made for higher speeds that really need some sort of catapult to give them a proper send-off. Lanchester's high-speed models were all launched in this way, and he gives a description in his work on aerial flight of the apparatus that he used. We imagine from the nature of the majority of the letters received that most of our correspondents are more interested in copying actual flyers on a small scale than in making models solely with a view of scientifically investigating the principles of flight.—ED.]

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Blériot Machines in London.

IN view of the success of the Blériot monoplanes at Rheims and Bournemouth our readers would do well to note that the London offices of Mr. L. Blériot are at Belfast Chambers, 156, Regent Street, where Mr. Norbert Chereau has the general management of the business for the British Empire.

MR. A. V. ROE, who is flying his latest triplane at the Brooklands Aerodrome, is now we learn, prepared to accept engagements for exhibition flights, carrying passengers, &c. Mr. Roe states that the triplane is very suitable for small grounds.

Records.

Distance and Duration.—Olieslaegers (Belgium), at Rheims, on a Blériot monoplane with Gnome engine: 244·309 miles in 5h. 3m. 5⅘s.

Speed.—Morane (France), at Rheims, on a Blériot monoplane with Gnome engine: 10 kiloms. (6·21 miles) in 5 mins. 42⅘ secs. = 65·02 m.p.h.

Altitude.—Brookins (America), at Atlantic City, on a Wright biplane: 6,175 ft. in 56 mins.

PUBLICATIONS RECEIVED.

The Mechanics of the Earth's Atmosphere. A Collection of Translations by Cleveland Abbe. Washington (U.S.A.): The Smithsonian Institution.

Catalogues.

Aeroplanes Voisin. Voisin Frères, 34, Quai du Point-du-Jour, Billancourt, France.

"Avia" Aeroplane Accessories and Metals. H. Rollet and Co., Coldbath Square, Rosebery Avenue, E.C.

Aeronautical Patents Published.

Applied for in 1909.

Published July 21st, 1910.

14,990. H. D. BOULTBEE. Aeroplanes, &c.
15,271. T. JOHNSON. Aeroplanes.
15,675. W. TATTERSALL. Airships.
15,677. W. TATTERSALL. Balancing aeroplanes, &c.
17,597. R. C. SAVER. Aerostatics.
28,831. C. M. LEE. Propeller mechanism.

DIARY OF FORTHCOMING EVENTS.

British Events.

1910.		1910.	
July 23	Balloon Race, Hurlingham	Aug. 29–30	Dublin.
July 28–Aug. 3	Blackpool.	Sept. 1–3	Folkestone.
Aug. 6–13	Lanark.*	Sept. 8–10	Northumberland and Durham.
Aug. 15–20	Blackpool.		
Aug. 17–24	Southend.		

Foreign Events.

1910.		1910.	
July 24–Aug. 4	Belgium.*	Oct. 15–23	New York. Gordon-Bennett Aviation Cup.
Aug. 6–21	Circuit de l'Est (*Matin*).	Oct. 18–25	St. Louis. Gordon-Bennett Balloon Race.
Aug. 25–Sept. 4	Havre-Trouville.*	Dec. 4–18	Marseilles.
Sept. 24–Oct. 3	Milan.*		
Sept. 25–Oct. 3	Biarritz.		

* International.

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